



HOTSTREAM

Manufacturers for over forty
years of the "Most Complete Line of
Water Heaters and Appliances" for...

- Every kind of fuel
- Every requirement
- Every purpose
- Every community
- Every pocketbook



THE HOTSTREAM HEATER COMPANY

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Mike Jackson, FAIA

LIST PRICES



TELEPHONE
EN 1-1300

HOTSTREAM

STONE LINED TANK

NO RUST

NO CORROSION

NO STAIN

AUTOMATIC STORAGE GAS WATER HEATERS AND ACCESSORIES

Effective **SEPTEMBER 16, 1957**

Supersedes December 20, 1956 Sheet and
Supplementary No. 2 — Dated June 4, 1957

This Sheet Applies to Catalog Pages Dated August 1, 1957.

The Hotstream Heater Company
2363 E. 69th St., Cleveland, Ohio



NOTE—All our Gas Automatics comply with FHA Requirements for Btu Input.

TAXES

A 5% Excise Tax will be added to the net price of all water heaters and accessories ordered for shipment with water heaters, except the following items:

Page 4—Models A-60-SL-PR; A-60-S-PR

Page 8—Model GLA-60-G2

Page 13—Models D-75-R2; D-80-R2; D-100-R2

All prices are subject to increase without notice by reason of any Federal and/or State Sales or Manufacturers' Tax applicable to such items against which said tax or taxes apply.

FREIGHT

Unless we receive explicit shipping instructions we can assume no responsibility for method of shipping. "Best Way" or "Cheapest Way" are not specific.

If unable to load minimum carload or truckload weight due to bulk, freight allowance is made only on actual weight shipped.

All products are f.o.b. factory and subject to actual railroad freight rates allowed up to \$1.00 per cwt. on shipments of 100 pounds or over. All items are shipped from Cleveland, Ohio, except the following:

Pages 8 - 9 - 10 - 11 and 12

Models "GL" - "D" - "H" - "Y" and "X" -- Dallas, Texas and Cleveland, Ohio

TERMS

1% 10 days; 30 days net, f.o.b. factory.

Minimum charge on any invoice \$1.00.

Prices, discounts and terms subject to change without notice.

All orders accepted subject to price in effect at date of shipment.

WAREHOUSE

Warehouse price sheets on request.

EXTRAS

Lots less than 12, under 50 gal.--add \$2.00

Mass. Plumbing Requirements--On heaters with galvanized tank add \$2.00.

GENERAL CONDITIONS

Prices are subject to change without notice. All agreements are contingent upon labor stoppages, fires, floods and other causes of delay beyond our control. In the event of sale based on terms of this price sheet, such sale is final and not subject to cancellation in whole or part, other than by mutual agreement.

TRANSPORTATION CLAIMS

The responsibility of this Company ceases upon delivery of goods in good order to Transportation Companies. As all goods are shipped at buyer's risk, they should be examined carefully before he signs delivery receipt. If carrier tenders delivery of goods in bad order or if the packages delivered do not check with number called for on freight bill, buyer should insist on Carrier's agent making notation of condition or shortage on delivery receipt. He is required to do this by law. This will enable buyer to secure prompt payment of claim which may be filed by him for damaged or lost material.

CLAIMS FOR REPLACEMENT

All replacement parts for material claimed defective will be invoiced in the usual manner, such invoice being subject to adjustment after alleged defective material has been returned to plant for inspection. All such alleged defective material covered by Warranty must be returned within thirty (30) days in order to receive credit consideration. Claims for Shortage or Wrong Materials Shipped must be made within ten (10) days after receipt of shipment.

RETURNED GOODS

No material of any kind must be returned for credit without first securing written permission and when so returned (provided such material is new and unused), will be subject to ten percent (10%) deduction for rehandling. All transportation charges, including freight and cartage, to be paid by shipper.

HOTSTREAM LIST PRICES — AUTOMATIC STORAGE GAS WATER HEATERS

Effective SEPTEMBER 16, 1957 — Supersedes December 20, 1956 Sheet and Supplementary No. 2 — Dated June 4, 1957
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PAGE 4

MODEL A-SL *Stone Lined* HEATERS — WARRANTY TEN YEARS - 5 & 5

EQUIPPED WITH UNITROL 200 - 100% - CONTROL FOR ALL GASES INCLUDING LPG

MODEL No.	PRICES	APPROX. CRATED WEIGHT	CAPACITY GALLONS	HEIGHT INCHES W/HOOD	BTU INPUT RATINGS			RECOVERY CAPACITY GALS. Per hr. at 100° Temp. Rise		
					NAT.	MFG.	LPG.	NAT.	MFG.	LPG.
A-30-SL	\$141.48	265	26.6	71	35M	40M	30M	29.4	33.6	25.2
A-40-SL	163.58	335	40.0	67	40M	40M	30M	33.6	33.6	25.2
A-60-SL-PR	236.32	475	60.0	76	50M	50M	-	42.0	42.0	-
A-60-SL-B	232.10	475	60.0	76	-	-	30M	-	-	25.2

Galvanized steel tanks supplied when specified.

For Double Temperature Model Add Suffix Letter "DT". For Any Size Add \$24.22

PAGE 5

MODEL AL *Allumatic* ALUMINUM HEATERS — WARRANTY TEN YEARS - 5 & 5

EQUIPPED WITH UNITROL 110 - 100% CONTROL FOR ALL GASES INCLUDING LPG

AL-30-G1	\$147.00	159	30	71	35M	40M	30M	29.4	33.6	25.2
AL-40-G1	182.70	230	40	67	40M	40M	30M	33.6	33.6	25.2

For Double Temperature Model Add Suffix Letter "DT". For Any Size Add \$24.22

PAGE 6 MODEL H-SL *Combination Stone and Glass Lined* HEATERS — WARRANTY FIVE YEARS - 1 & 4
EQUIPPED WITH KILROY HOTSTREAM CONTROL - CITY GASES ONLY

H-30-SL-K	\$103.70	235	30	61	30M	30M	30M	25.2	25.2	25.2
H-40-SL-K	122.22	271	40	63	30M	30M	30M	25.2	25.2	25.2
H-50-SL-K	161.60	351	50	63	30M	30M	30M	25.2	25.2	25.2

PAGE 7

MODEL DG *Deluxe Everglass* HEATERS — WARRANTY TEN YEARS - 5 & 5

EQUIPPED WITH UNITROL 200 - 100% - CONTROL FOR ALL GASES INCLUDING LPG

DG-30-G2	\$131.78	200	30	68 1/2	35M	35M	30M	29.4	29.4	25.2
DGS-30-G2 Shorty	131.78	200	30	57 3/4	35M	35M	30M	29.4	29.4	25.2
DG-40-G2	153.70	270	40	60	36M	36M	30M	30.3	30.3	25.2
DGL-40-G2 Longy	153.70	270	40	70	36M	36M	30M	30.3	30.3	25.2
DG-50-G2	204.10	290	50	60 5/8	38M	38M	30M	31.9	31.9	25.2

PAGE 8

MODEL GL *Everglass Glass Lined* HEATERS — WARRANTY TEN YEARS - 5 & 5

EQUIPPED WITH UNITROL 110 - 100% - CONTROL FOR ALL GASES INCLUDING LPG

GL-20	\$104.22	128	20	62	20M	20M	20M	16.8	16.8	16.8
GL-30	115.78	160	30	67	30M	30M	30M	25.2	25.2	25.2
GLS-30 Shorty	115.78	150	30	56	30M	30M	30M	25.2	25.2	25.2
GL-40	137.70	200	40	58 1/2	30M	30M	30M	25.2	25.2	25.2
GLL-40 Longy	137.70	200	40	68 1/2	30M	30M	30M	25.2	25.2	25.2
GL-50	184.10	288	50	59 1/2	30M	30M	30M	25.2	25.2	25.2
GLA-60-62	256.00	290	60	76	50M	50M	30M	42.0	42.0	25.2

WITH KILROY CONTROL (GL-K) - FOR CITY GASES ONLY - DEDUCT \$3.16

MODEL No.	PRICES	APPROX. CRATED WEIGHT	CAPACITY GALLONS	HEIGHT INCHES W/HOOD	BTU INPUT RATINGS			RECOVERY CAPACITY GALS. Per hr. at 100° Temp. Rise		
					NAT.	MFG.	LPG.	NAT.	MFG.	LPG.

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MODEL D *American* GALVANIZED HEATERS - WARRANTY TEN YEARS - 2 & 8

EQUIPPED WITH UNITROL 200 - 100% CONTROL FOR ALL GASES INCLUDING LPG

D-6-G2	\$ 92.00	114	6	36	15M	15M	15M	12.6	12.6	12.6
D-20-G2	104.22	160	20	62	20M	20M	20M	16.8	16.8	16.8
D-30-G2	115.78	192	30	67	30M	30M	30M	25.2	25.2	25.2
DS-30-G2 Shorty	115.78	192	30	56	30M	30M	30M	25.2	25.2	25.2
D-40-G2	137.70	240	40	58 1/2	30M	30M	30M	25.2	25.2	25.2
DL-40-G2 Longy	137.70	240	40	68 1/2	30M	30M	30M	25.2	25.2	25.2
D-50-G2 PR	188.10	290	50	60 1/2	38M	38M	-	31.9	31.9	-
D-50-G2-B-LPG	184.10	290	50	59 1/2	-	-	30M	-	-	25.2

PAGE 10

MODEL H *Okloan* GALVANIZED HEATERS - WARRANTY FIVE YEARS - 1 & 4

EQUIPPED WITH KILROY CONTROL FOR CITY GASES ONLY

H-20	\$ 88.44	124	20	62	20M	20M	20M	16.8	16.8	16.8
H-30	97.70	150	30	67	30M	30M	30M	25.2	25.2	25.2
HS-30 Shorty	97.70	150	30	56	30M	30M	30M	25.2	25.2	25.2
H-40	116.22	198	40	58 1/2	30M	30M	30M	25.2	25.2	25.2
HL-40 Longy	116.22	198	40	68 1/2	30M	30M	30M	25.2	25.2	25.2
H-50	155.60	294	50	59 1/2	30M	30M	30M	25.2	25.2	25.2
H-50-G2-PR	166.96	294	50	60 1/2	38M	38M	-	31.9	31.9	-

EQUIPPED WITH UNITROL 110 FOR LPG OR CITY GASES "H-G1" ADD \$3.16

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MODEL Y *Loughorn* GALVANIZED HEATERS - WARRANTY THREE YEARS - 1 & 2

EQUIPPED WITH KILROY CONTROLS FOR CITY GASES ONLY

Y-20	\$ 83.16	125	20	62	20M	20M	20M	16.8	16.8	16.8
Y-30	92.42	150	30	67	30M	30M	30M	25.2	25.2	25.2
YS-30 Shorty	92.42	150	30	56	30M	30M	30M	25.2	25.2	25.2
Y-40	110.94	190	40	58 1/2	30M	30M	30M	25.2	25.2	25.2
YL-40 Longy	110.94	190	40	68 1/2	30M	30M	30M	25.2	25.2	25.2
Y-50	150.32	283	50	59 1/2	30M	30M	30M	25.2	25.2	25.2

EQUIPPED WITH UNITROL 110 FOR LPG OR CITY GASES - "Y-G1" ADD \$3.16

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MODEL X *Texan* GALVANIZED HEATERS - WARRANTY ONE YEAR

EQUIPPED WITH KILROY CONTROL - FOR CITY GASES ONLY

X-20	\$ 77.90	124	20	62	20M	20M	20M	16.8	16.8	16.8
X-30	87.16	152	30	67	30M	30M	30M	25.2	25.2	25.2
XS-30 Shorty	87.16	150	30	56	30M	30M	30M	25.2	25.2	25.2
X-40	105.68	194	40	58 1/2	30M	30M	30M	25.2	25.2	25.2
XL-40 Longy	105.68	194	40	68 1/2	30M	30M	30M	25.2	25.2	25.2
X-50	145.06	286	50	59 1/2	30M	30M	30M	25.2	25.2	25.2

EQUIPPED WITH UNITROL 110 FOR LPG OR CITY GASES - "X-G1" ADD \$3.16

MODEL No.	PRICES	APPROX. CRATED WEIGHT	CAPACITY GALLONS	HEIGHT INCHES W/HOOD	BTU INPUT RATINGS			RECOVERY CAPACITY GALS. Per hr. at 100° Temp. Rise		
					NAT.	MFG.	LPG.	NAT.	MFG.	LPG.

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MODEL R2 *Dixie* GALVANIZED HEATERS

WARRANTY ONE YEAR COMMERCIAL; 10 YEAR - 2 & 8 DOMESTIC

D-50-R2	\$205.08	402	50	64	45M	45M	30M	37.8	37.8	25.2
D-75-R2	301.40	618	75	78 1/2	45M	45M	30M	37.8	37.8	25.2
D-80-R2	336.60	641	80	87 3/8	80M	80M	60M	67.2	67.2	50.4
D-100-R2	378.40	708	100	89 3/4	80M	80M	60M	67.2	67.2	50.4

PAGE 14

MODEL TT *Table Top* GLASS LINED AND GALVANIZED HEATERS - FITS FLUSH TO WALL

WARRANTY TEN YEARS - 2 & 8

EQUIPPED WITH UNITROL 110 - 100% CONTROL FOR ALL GASES INCLUDING LPG

TT-30-GL	\$208.90	260	30	40	30M	30M	30M	25.2	25.2	25.2
TT-30	199.26	230	30	40	30M	30M	30M	25.2	25.2	25.2

MODEL KK *Kitchen Cabinet* GALVANIZED HEATERS

WARRANTY - 5 YEAR - 1 & 4

EQUIPPED WITH UNITROL 110 - 100% CONTROL FOR ALL GASES INCLUDING LPG

KK-20	\$128.42	183	18.7	34	20M	20M	20M	16.8	16.8	16.8
KK-30	151.58	232	28	34	25M	25M	25M	21.0	21.0	21.0

PAGE 1

BURNER DISPLAY ASSEMBLIES

Burner assembly with Kilroy Control . .	\$36.30
Burner assembly with Unitrol "G1" . . .	40.92
Burner assembly with Unitrol "G2" . . .	44.80

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ACCESSORIES

WATER PRESSURE REGULATOR AND STRAINER COMBINATION

No. 135--1/2"	\$12.00
No. 135--3/4"	15.00
No. 135--1"	24.00
No. 23--Pressure test gauge, 0 to 200lbs.	4.00

LOW GAS PRESSURE REGULATOR

3/8"	\$ 2.32
1/2"	3.90
3/4"	4.26
1"	8.86
1-1/4"	10.66
VD-203--3/4" mixing valve, adjustable	16.00
3/4" Diaphragm valve, B-101	6.94
1" Diaphragm valve, B-101	9.14

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DIELECTRIC UNIONS

1/2" Packed 2 per box each	\$ 1.80
3/4" Packed 2 per box each	2.80
1" Packed 2 per box each	4.00
1-1/4" Packed 2 per box each	5.50
2" Packed 1 per box each	17.40
3" Packed 1 per box each	25.40

PAGE 51

TP high temperature cut-off.	\$ 8.80
Installed on heater, add.	6.20

PAGE 51 (Cont'd)

RELIEF VALVES

53	\$ 2.70	53-L	\$ 3.46
N-54	3.30	N-54-L	3.98
30	4.96	30-L	5.78
31	5.78	31-L	6.60
31-SL (1/2")	6.60	31-SL (3/4")	9.22
N-40	10.50	N-40-L	11.26
N-40-X	12.00	N-40-XL	12.76
36 vacuum	3.68		
11 pressure	1.68	11-L	2.28
22 T & P	1.88	22-L	2.40

Adjust Btu rating 100,000

	1/2"	3/4"
A-44 T&P	\$ 7.50	\$ 8.26
A-44-L T&P	8.26	9.00
A-44-X T&P w/extra element	8.26	9.00
A-44-XL T&P w/extra element	9.00	9.76
Fusible plugs for No. 54 relief valves (for two) . . . . .		.16
Fusible plugs for No. 31 and No. 31-L relief valve (for one) . . . . .		.30
Fusible plugs for No. 31-SL and No. 31- XL relief valve (for one) . . . . .		.16
Gross lots less 5%		

PAGE 52

MAGNESIUM RODS

For auto. heaters up to 40-gal. size. . .	\$ 5.00
For auto. heaters over 40-gal. size . . .	8.00
For Booster heaters	10.00

PAGE 52 (Cont'd)

MAGNESIUM RODS

FOR STANDARD RANGE BOILERS

No. 1--3/4" x 56" solid	\$ 7.20
No. 2--1" x 56" solid	8.00
No. 3--3/4" x 38" solid	5.00
No. 4--3/4" x 42" sectional -- w/adaptor and nipple	6.00
Nipple and special fitting installation in hot water outlet included as standard equip- ment.	

PAGES 59 & 60

TYPES OF THERMOSTATS FOR REPAIRS TYPES OF AUTOMATIC PILOTS FOR REPAIRS

PAGE 61

REPAIR PARTS FOR AUTOMATIC PILOTS

PAGE 62

STORAGE TANKS AND REPAIR PARTS FOR AUTOMATIC WATER HEATERS

Add Suffix to Model Number to Indicate Control Desired

"K" -- Kilroy Hotstream -- City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" - Unitrol 110	"G4" - Unitrol 400	"V" - Minneapolis Honeywell V5124
"G2" - Unitrol 200	"G5" - General G5G	"V6" - Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or Diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.

LIST PRICES



TELEPHONE
EN 1 1300

HOTSTREAM

4-IN-1
BOOSTER

BOOSTER WATER HEATERS

Effective
SEPTEMBER 16, 1957

Supersedes December 20, 1956 Sheet and
Supplementary No. 1 — Dated March 1, 1957

This Sheet Applies to Catalog Pages 16-17-18 & 19
Dated August 1, 1957



FREIGHT

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1% 10 days; 30 days net, f.o.b. factory.

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THE HOTSTREAM HEATER COMPANY

2363 EAST 69th STREET

CLEVELAND 4, OHIO

HOTSTREAM LIST PRICE SHEET — BOOSTER WATER HEATERS

Effective **SEPTEMBER 16, 1957**

Supersedes December 20, 1956 Sheet and Supplementary No. 1 — Dated March 1, 1957

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ONE YEAR WARRANTY

Excise Tax Exempt

DRAFT HOOD INCLUDED WITH HEATER	Model No. 75-140PR 275-140LPG	Model No. 90-224PR 290-224LPG	Model No. 100-PR 300-LPG	Model No. 150-PR 350-LPG	Model No. 225-PR 425-LPG	Model No. 250-PR 450-LPG
NATURAL AND MANUFACTURED GAS RATINGS						
Recovery Gals. per Hr. 60° Temp. Rise	138.5	189.0	125.8	210.0	251.8	322.0
Recovery Gals. per Hr. 80° Temp. Rise	103.9	141.8	94.4	157.5	188.8	241.5
Recovery Gals. per Hr. 100° Temp. Rise	83.2	113.3	75.6	126.0	151.2	193.3
Input - Btu per hour	99,000	135,000	90,000	150,000	180,000	230,000
LIQUEFIED PETROLEUM GAS RATINGS-						
Recovery Gals. per Hr. 60° Temp. Rise	125.8	168.0	83.9	140.0	168.0	210.0
Recovery Gals. per Hr. 80° Temp. Rise	94.4	126.0	63.0	105.0	126.0	157.5
Recovery Gals. per Hr. 100° Temp. Rise	75.6	100.8	50.4	84.0	100.8	126.0
Input - Btu per hour	90,000	120,000	60,000	100,000	120,000	150,000
Tank Capacity in U. S. Gallons	75	90	40	21	34	34
Number of Flues	4	4	8	12	18	18
Approximate Crated Weight--lbs.	604	690	458	424	561	563
PRICE — ALL GASES — STANDARD TANK	\$379.78	\$430.74	\$324.22	\$370.52	\$463.16	\$497.90
PRICE — ALL GASES — ASME TANK	-	\$730.74	-	\$550.52	\$643.16	\$677.90

Equipped with Kilroy thermostat, diaphragm valve and Grayson TS-13 pilot for city gases. Unitrol 400 for LP gases. We recommend a 3/4" No. A44XL temperature and pressure automatic self-reseating relief valve with immersion element and lever, add \$9.76. Second thermostat for City gases, add \$12.00.

ASME TANKS

In Ohio and many other States, all heaters with an input of 100,000 B T U or over must be made with an ASME tank. When specified, we can furnish an ASME tank.

The ASME symbol on the boiler indicates that the boiler is constructed in accordance with the rigid requirements so set forth by the American Society of Mechanical Engineers. The requirements cover the design, material, construction and safety of the boiler.

PAGE 51

TP high temperature cut-off. \$ 8.80
Installed on heater, add. 6.20

RELIEF VALVES

53	\$ 2.70	53-L	\$ 3.46
N-54	3.30	N-54-L	3.98
30	4.96	30-L	5.78
31	5.78	31-L	6.60
31-SL (1/2")	6.60	31-SL (3/4")	9.22
N-40	10.50	N-40-L	11.26
N-40-X	12.00	N-40-XL	12.76
36 vacuum	3.68		
11 pressure	1.68	11-L	2.28
22 T & P	1.88	22-L	2.40

Adjust Btu rating 100,000

	1/2"	3/4"
A-44 T&P	\$ 7.50	\$ 8.26
A-44-L T&P	8.26	9.00
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A-44-XL T&P w/extra element	9.00	9.76
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Gross lots less 5%.		

THE HOTSTREAM HEATER COMPANY

2363 EAST 69th STREET

CLEVELAND 4, OHIO

HOTSTREAM LIST PRICES

HB HEATING BOILERS • H193 HEATING BOILERS FLOOR FURNACES • INCINERATORS

Effective SEPTEMBER 16, 1957

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2363 E. 69th STREET • CLEVELAND 4, OHIO

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Page 49 — Circulator — f.o.b. Peru, Indiana. Freight allowance \$1.00 per cwt. on 100 pounds or over. When shipped from Cleveland — no freight allowed.

Pages 40 - 41 — Floor Furnaces, f.o.b. Pittsburgh, Pa. Freight allowance \$1.00 per cwt. When shipped from Cleveland — no freight allowed.

Page 42 — Incinerators, F.O.B. Carpentersville, Illinois. Freight allowance \$1.00 per cwt. When shipped from Cleveland — no freight allowed.

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The responsibility of this Company ceases upon delivery of goods in good order to Transportation Companies. As all goods are shipped at buyer's risk, they should be examined carefully before he signs delivery receipt. If carrier tenders delivery of goods in bad order or if the packages delivered do not check with number called for on freight bill, buyer should insist on Carrier's agent making notation of condition or shortage on delivery receipt. He is required to do this by law. This will enable buyer to secure prompt payment of claim which may be filed by him for damaged or lost material.

CLAIMS FOR REPLACEMENT

All replacement parts for material claimed defective will be invoiced in the usual manner, such invoice being subject to adjustment after alleged defective material has been returned to plant for inspection. All such alleged defective material covered by Warranty must be returned within thirty (30) days in order to receive credit consideration. Claims for Shortage or Wrong Materials Shipped must be made within ten (10) days after receipt of shipment.

RETURNED GOODS

No material of any kind must be returned for credit without first securing written permission and when so returned (provided such material is new and unused), will be subject to ten percent (10%) deduction for rehandling. All transportation charges, including freight and cartage, to be paid by shipper.

PAGE 42

INCINERATORS

NO EXCISE TAX

VI — Hand-fired, no gas \$100.60
Shipped completely assembled for hand-firing. VI can be converted to gas-fired by assembling gas package set, Nos. 2 or 15

VI-2 — With gas package No. 2 116.61
Constant low flame (2,000 Btu) for natural and mixed gases. Package set includes mounting plate, manifold, orifice shutoff gas valve, pressure regulator and instructions.
No. 2 Gas Package set only 16.00

VI-15 — With gas package No. 15 \$137.60
Constant pilot; high-flame, automatic clock control (15,000 Btu) for natural, mixed and LP gases. Package set includes Venturi pipe fittings, orifice, gas valve, orifice holder, safety control pilot with thermocouple, pressure regulator for city gases, clock and instructions.

No. 15 Gas Package set only 36.30

All Manufactured Gas Packages contain gas filter extra, add 2.00

No. 2 — LP Gas Packages contain Robertshaw TS-13 valvette and thermocouple for 100% shutoff and "J" baffle for orifice extra, add \$8.00 — includes 6-inch incinerator Draft - O - Stat w/tee. Shipping weight: 130 pounds.

PAGES 20 & 21

MODEL "HB" ASME HEATING BOILERS

NATURAL & MANUFACTURED GAS RATINGS —		HB-150	HB-250
Input — Btu per hour		150,000	230,000
Output — Btu per hour		120,000	184,000
Total Sq. Ft. Hot Water Radiation		800	1,250
Standing Sq. Ft. Hot Water Radiation		560	875
LIQUEFIED PETROLEUM GAS RATINGS			
Input — Btu per hour		100,000	150,000
Output — Btu per hour		80,000	120,000
Total Sq. Ft. Hot Water Radiation		533	800
Standing Sq. Ft. Hot Water Radiation		373	560
Approximate Crated Weight — lbs.		550	670
PRICE		\$670.00	\$780.00

Includes: manual main gas control valve; pressure regulator; automatic pilot; high limit temperature control; solenoid valve; transformer; pressure-altitude-temperature gage; draft hood.

Description on page 20 & 21 in our catalog.

Effective SEPTEMBER 16, 1957
Supersedes December 20, 1956 Sheet

GAS - FIRED HOT WATER HEATING BOILER

*Surface type High Limit can only be used in conjunction with limtee, if desired. When using limtee specify Surface Type. Deduct \$4.40

	NAT. & MFD.	LPG
Btu Input per Hour	65,000	50,000
Btu Output per Hour	52,000	40,000
Sq. Ft. Hot Water Radiation (150 Btu Emission)	346	266
Sq. Ft. Direct Hot Water Radiation (150 Btu Emission)	260	200

D	Room thermostat, low voltage	\$ 12.46
E	High limit control — Surface-type — Electric	8.00
	*Immersion-type — Electric	13.12
* F	Solenoid gas control valve (with transformer) — ½" ...	17.12
* G	Pressure-altitude-temperature gage	7.80
* H	Transformer only — Type T-O	4.20
J-K-L	Hot water heating regulator, No. 45-A — ½"	15.00
M	Relay-transformer, 110 volt	18.58
N	Electric circulator pump — 1"	81.44
	*Standard "HB" Heating Boilers	

1-H-1" flange	\$ 81.44
1¼-H-1¼" flange	81.44
15-H-1½" union	96.70

HORIZONTAL	
14-AH—Threaded 1¼"	104.00

3/8" —K3A	16.92
1/2" —K3A	17.56
3/4" —K3A	19.30
1" —K3A	27.22
1 1/4" —K3A	34.60

GAS FLOOR FURNACES

MODEL "HC"				
FURNACE MODEL	35,000 BTU HC-35	50,000 BTU HC-50	65,000 BTU HC-65	80,000 BTU HC-80
Equivalent Sq. Ft. Steam Radiation	102	145	190	234
Water Radiation	163	233	303	373
Cu. Ft. Space H't'd —20° to 70° F.	2648	3783	4919	6060
0° to 70° F.	3266	4666	6066	7460
+10° to 70° F.	4170	5957	7744	9666
BTU input/HR Propane only	35,000	50,000	65,000	80,000
BTU input/HR LP and L Pair	35,000	50,000	60,000	—
Approx. Ship. Wt.	130 Lb.	155 Lb.	195 Lb.	250 Lb.
PRICE	\$96.60	\$109.80	\$141.80	\$177.90

ROOM CONTROLS FOR GAS FLOOR FURNACES

BX-69 — With MR5 — 100% for all gases	\$60.62
Y-77 — Package set	38.96
Y-78 — Package set with night set back	53.58

Complete specifications on page 41 in our Catalog.

HOTSTREAM LIST PRICES

AUTOMATIC STORAGE ELECTRIC WATER HEATERS AND ACCESSORIES

Effective SEPTEMBER 16, 1957

Supersedes December 20, 1956 Sheet and
Supplementary No. 2 — Dated June 4, 1957

This Sheet Applies to Catalog Pages 24, 25, 26 and 27 — Dated August 1, 1957

THE HOTSTREAM HEATER CO.

2363 E. 69th STREET

CLEVELAND 4, OHIO



TAXES

A 5% Excise Tax will be added to the net price of all water heaters and accessories ordered for shipment with water heaters, except the following items:

Page 27 — 120 gallon and all sizes with total wattages of more than 7500 — for simultaneous operation.

All prices are subject to increase without notice by reason of any Federal and/or State Sales or Manufacturers' Tax applicable to such items against which said tax or taxes apply.

FREIGHT

Unless we receive explicit shipping instructions we can assume no responsibility for method of shipping. "Best Way" or "Cheapest Way" are not specific.

If unable to load minimum carload or truckload weight due to bulk, freight allowance is made only on actual weight shipped.

All products are f.o.b. factory and subject to actual railroad freight rates allowed up to \$1.00 per cwt. on shipments of 100 pounds or over. All items are shipped from Cleveland, Ohio.

TERMS

1% 10 days; 30 days net, f.o.b. factory.

Minimum charge on any invoice \$1.00.

Prices, discounts and terms subject to change without notice.

All orders accepted subject to price in effect at date of shipment.

WAREHOUSE

Warehouse price sheets on request.

EXTRAS

Lots less than 12, under 50 gal.--add \$2.00

Mass. Plumbing Requirements--On heaters with galvanized tank add \$2.00

GENERAL CONDITIONS

Prices are subject to change without notice. All agreements are contingent upon labor stoppages, fires, floods and other causes of delay beyond our control. In the event of sale based on terms of this price sheet, such sale is final and not subject to cancellation in whole or part, other than by mutual agreement.

TRANSPORTATION CLAIMS

The responsibility of this Company ceases upon delivery of goods in good order to Transportation Companies. As all goods are shipped at buyer's risk, they should be examined carefully before he signs delivery receipt. If carrier tenders delivery of goods in bad order or if the packages delivered do not check with number called for on freight bill, buyer should insist on Carrier's agent making notation of condition or shortage on delivery receipt. He is required to do this by law. This will enable buyer to secure prompt payment of claim which may be filed by him for damaged or lost material.

CLAIMS FOR REPLACEMENT

All replacement parts for material claimed defective will be invoiced in the usual manner, such invoice being subject to adjustment after alleged defective material has been returned to plant for inspection. All such alleged defective material covered by Warranty must be returned within thirty (30) days in order to receive credit consideration. Claims for Shortage or Wrong Materials Shipped must be made within ten (10) days after receipt of shipment.

RETURNED GOODS

No material of any kind must be returned for credit without first securing written permission and when so returned (provided such material is new and unused), will be subject to ten percent (10%) deduction for rehandling. All transportation charges, including freight and cartage, to be paid by shipper.

HOTSTREAM LIST PRICE SHEET

AUTOMATIC ELECTRIC STORAGE WATER HEATERS

Catalog Pages

24-25-26-27

Effective SEPTEMBER 16, 1957
SUPERSEDES DECEMBER 20, 1956 SHEET
AND SUPPLEMENTARY NO. 2 DATED JUNE 4, 1957

VOLTAGE MUST BE SPECIFIED

ELECTRIC *Galvanized* HEATERS — SINGLE ELEMENT WARRANTY *Five* YEARS — ROUND

Equipped With Snap Action Thermostat: Immersion Electric
Heating Element, Heat Trap, Fiberglas Insulated & Drain Valve.

MODEL	PRICE	CRATED WEIGHT	CAP. U.S. GAL.	SINGLE ELEMENT WATTAGES
S-30-E	\$ 94.72	176	30	1500
S-42-E	110.00	210	42	2000
S-52-E	119.46	240	52	2500
S-66-E	142.62	307	66	3000
S-82-E	165.26	348	82	3000
*S-120-E	247.88	400	120	5000

NO EXCISE TAX

*120 Gal. with A.S.M.E. Tank add \$180.00

IF TWIN ELEMENTS & THERMOSTATS ARE DESIRED ADD \$7.36
SEE TWIN MODELS FOR WATTAGES — USE PREFIX T INSTEAD OF S

ELECTRIC *Galvanized* HEATERS — TWIN ELEMENTS WARRANTY *Ten* YEARS — ROUND

Equipped With Two Snap Action Thermostats: Two Immersion Electric
Heating Elements, Fiberglas Insulated, Heat Trap & Drain Valve.

MODEL	PRICE	CRATED WEIGHT	CAP. U.S. GAL.	TWIN ELEMENT WATTAGES	
				LOWER	UPPER
T-30-EM	\$107.36	178	30	600	1000
T-52-EM	134.00	242	52	1000	1500
T-42-EM	123.16	210	42	750	1250
T-66-EM	157.90	309	66	1250	2000
T-82-EM	181.58	350	82	1500	2500
*T-120-EM	263.04	400	120	4000	4000
T-52-EC <small>Copper</small>	240.00	290	52	1000	1500

NO EXCISE TAX

*120 Gal. with A.S.M.E. Tank Add \$180.00

IF SINGLE ELEMENT & THERMOSTAT ARE DESIRED DEDUCT \$7.36
SEE SINGLE ELEMENT MODELS FOR WATTAGES — USE PREFIX S INSTEAD OF T.

ELECTRIC *Glass-Lined* HEATERS — TWIN ELEMENTS WARRANTY *Ten* YEARS — ROUND

Equipped With Two Snap Action Thermostats: Two Immersion Electric
Heating Elements, Fiberglas Insulated, Copper Heat Trap & Drain Valve.

MODEL	PRICE	CRATED WEIGHT	CAP. U.S. GAL.	TWIN ELEMENT WATTAGES	
				LOWER	UPPER
T-30-EGL	\$119.46	182	30	600	1000
T-40-EGL	136.84	210	40	750	1250
T-52-EGL	148.94	240	52	1000	1500
T-66-EGL	175.78	300	66	1250	2000
T-82-EGL	201.58	350	82	1500	2500

IF SINGLE ELEMENT & THERMOSTAT ARE DESIRED DEDUCT \$7.36
SEE SINGLE ELEMENT MODELS FOR WATTAGES — USE PREFIX S INSTEAD OF T.

ELECTRIC *Stone-Lined* HEATERS — TWIN ELEMENTS
WARRANTY *Ten* YEARS — ROUND

Equipped With Two Snap Action Thermostats: Two Immersion Electric Heating Elements, Fiberglas Insulated, Copper Heat Trap & Drain Valve.

MODEL	PRICE	CRATED WEIGHT	CAP. U.S. GAL	TWIN ELEMENT WATTAGES	
				LOWER	UPPER
T-30-ESL	\$121.10	253	30	600	1000
T-42-ESL	136.84	275	42	750	1250
T-50-ESL	144.20	333	50	1000	1500
T-66-ESL	161.00	420	66	1250	2000
T-80-ESL	177.90	510	80	1500	2500

IF SINGLE ELEMENT & THERMOSTAT ARE DESIRED DEDUCT \$7.36
 SEE SINGLE ELEMENT MODELS FOR WATTAGES — USE PREFIX S INSTEAD OF T.

ELECTRIC *Table Top* HEATERS — TWIN ELEMENTS
FITS FLUSH TO WALL — COUNTER HIGH

Equipped With Two Snap Action Thermostats: Two Immersion Electric Heating Elements, Fiberglas Insulated, Copper Heat Trap & Drain Valve.

GALVANIZED WARRANTY FIVE YEARS	PRICE	WARRANTY TEN YEARS	PRICE	GLASS LINED WARRANTY TEN YEARS	PRICE	STONE LINED WARRANTY TEN YEARS	PRICE
T-30-ETT	\$124.74	T-30-ETTM	\$131.56	T-30-ETT-GL	\$146.30	T-30-ETT-SL	\$146.30
T-40-ETT	136.84	T-40-ETTM	144.20	T-40-ETT-GL	160.52	T-40-ETT-SL	160.52
T-50-ETT	141.04	T-50-ETTM	157.36	T-50-ETT-GL	174.20	T-50-ETT-SL	174.20

FOR SINGLE ELEMENT HEATERS — DEDUCT \$3.68 (for KK Under Counter Model deduct \$20.00)
 STANDARD WATTAGES — 30 GALLON 600 & 1000 — 40 GALLON WATTAGES 750 & 1250 — 50 GAL. WATTAGES — 750 & 1250

ELECTRIC *Small Volume* HEATERS — SINGLE ELEMENT
WARRANTY *Five* YEARS — ROUND

Equipped With Snap Action Thermostat Immersion Electric Heating Element, Fiberglas Insulated.

MODEL	PRICE	CRATED WEIGHT	CAP. U.S. GAL	SINGLE ELEMENT WATTAGES
STONELINED S-5-SL	\$45.96	62	5	600 or 1000
GALVANIZED S-6-E	51.56	81	6	1250
S-12-E	68.00	105	12	1500
S-20-E	89.46	150	20	2500

RUBBER COVERED CORD AND PLUG CAN BE SUPPLIED — ADD \$3.00
 CAN BE FURNISHED FOR USE WITH 110 VOLTS AC OR 236 VOLTS AC WHEN SPECIFIED

OVERTEMPERATURE PROTECTIVE THERMOSTAT: With Manual Reset installed at factory, when specified. Add \$4.00

NO. 31-L DIAPHRAGM PRESSURE & TEMPERATURE RELIEF VALVE: Add \$6.60

DOMESTIC HOOK-UP: Thermostats wired for interlocking control so that only one thermostat and one heating element are operative at a time. Hook-up "B", B hook-up furnished unless specified otherwise.

COMMERCIAL HOOK-UP: Wired so that both units operate at the same time or for "100% off-peak" or "90% off-peak," Hook-up "A".

STANDARD VOLTAGE: 118 or 236 Volts A.C. Voltage must be specified on each order. When attached to lines with voltages less than specified on nameplate, the wattage and recovery rate will drop in proportion. In order to maintain specified recovery it will be necessary to order elements for the specific line voltage that is being supplied.

MODELS S-5-SL, S-6-E & S-12-E: Equipped with junction box (UL Approved) for rubber covered cord and plug, add \$3.00

THERMOSTAT: Snap-action type, Thermodisc direct-break large contacts. Can be set to deliver wide range with maximum 180° temperature setting. Contact type mounted just above heating element. Used for AC only. Furnished in two types known as models 5025 lower and 5135 upper. Model 5025 is a single-pole, single-throw thermostat for regular operation. Model 5135 is a single pole, double-throw thermostat, used for "limited demand" or interlocking, "90% off-peak" or simultaneous operation. Single unit heaters have one thermostat to control the single (lower) heating element. Double unit heaters have two thermostats — one to control each element. Also made with Camstat Thermostat No. 2AB upper and 1AB lower.

HEATING ELEMENT: Chromalox immersion electric heating element, engineered to give lasting satisfaction. Features include: insulated head; exclusive fold-back design for free water circulation. No touching parts — eliminates lime forming "nests"; die-pressed throughout for uniform electrical insulation and long life; exclusive one-piece copper-clad flange completes all-copper contact with water; Triple-sealed terminals for maximum safety — prevents current leakage and damage from moisture; highest quality refractory, compacted to rock hardness; best grade nickel-chromium resistor wire, perfectly centered. Chromalox elements are inexpensive from the standpoint of service-hour cost due to their unusually long operating performance. The connections to the tank are made by bolts through heavy flange stock. This arrangement affords easy removal.

Electric heaters for 440 volts can be furnished. It is necessary to wire into the system a relay or contactor, because the thermostats will not take the 440 volts.

NOTE: All heaters are supplied for A.C. Diagrams and operating instructions are furnished with each heater. All wiring Standard N.E.M.A. Color Coding unless otherwise specified on order.

NOTE: Wattages above are N.E.M.A. Standards and are furnished unless otherwise specified. Quick recovery wattages up to 5000 Watts furnished when specified at no extra charge.

ACCESSORIES
Refer To Catalog

PAGE 47

**WATER PRESSURE REGULATOR
AND STRAINER COMBINATION**

No. 135 — ½"	\$12.00
No. 135 — ¾"	15.00
No. 135 — 1"	24.00
No. 23 — Pressure test gauge, 0 to 200 lbs.	4.00

PAGE 48

DIELECTRIC UNIONS

½" Packed 2 per box	each	\$ 1.80
¾" Packed 2 per box	each	2.80
1" Packed 2 per box	each	4.00

1¼" Packed 2 per box	each	5.50
2" Packed 1 per box	each	17.40
3" Packed 1 per box	each	25.40

PAGE 51

RELIEF VALVES

53	\$ 2.70	53-L	\$ 3.46
N-54	3.30	N-54-L	3.98
30	4.96	30-L	5.78
31	5.78	31-L	6.60
31-SL (½")	6.60	31-SL (¾")	9.22
N-40	10.50	N-40-L	11.26
N-40-X	12.00	N-40-XL	12.76
36 vacuum	3.68		
11 pressure	1.68	11-L	2.28
22 T & P	1.88	22-L	2.40
Adjust Btu rating 100,000			

	½"	¾"
A-44 T&P	\$ 7.50	\$ 8.36
A-44-L T&P	8.26	9.00
A-44-X T&P w/extra element	8.26	9.00
A-44-XL T&P w/extra element	9.00	9.76
Fusible plugs for No. 54 relief valves (for two)		.16
Fusible plugs for No. 31 and No. 31-L relief valve (for one)		.30
Fusible plugs for No. 31-SL and No. 31- XL relief valve (for one)		.16

PAGE 52

MAGNESIUM RODS

For auto. heaters up to 40-gal. size	....\$ 5.00
For auto. heaters over 40-gal. size	.... 8.00

PAGE 62

Storage tanks and repair parts, Automatic Electric Heaters.

LIST PRICES



TELEPHONE
EN 1-1300

HOTSTREAM

OIL

AUTOMATIC STORAGE OIL WATER HEATERS AND ACCESSORIES

Effective SEPTEMBER 16, 1957

Supersedes December 20, 1956 Sheet and
Supplementary No. 3 — Dated July 18, 1957

This Sheet Applies to Catalog Pages 28 & 29 Dated August 1, 1957.

The Hotstream Heater Company
2363 E. 69th St., Cleveland, Ohio



TAXES

A 5% Excise Tax will be added to the net price of all water heaters and accessories ordered for shipment with water heaters, except the following items:

All prices are subject to increase without notice by reason of any Federal and/or State Sales or Manufacturers' Tax applicable to such items against which said tax or taxes apply.

FREIGHT

Unless we receive explicit shipping instructions we can assume no responsibility for method of shipping. "Best Way" or "Cheapest Way" are not specific.

If unable to load minimum carload or truckload weight due to bulk, freight allowance is made only on actual weight shipped.

All products are f.o.b. factory and subject to actual railroad freight rates allowed up to \$1.00 per cwt. on shipments of 100 pounds or over. All items are shipped from Cleveland, Ohio.

TERMS

1% 10 days; 30 days net, f.o.b. factory.

Minimum charge on any invoice \$1.00.

Prices, discounts and terms subject to change without notice.

All orders accepted subject to price in effect at date of shipment.

WAREHOUSE

Warehouse price sheets on request.

EXTRAS

Lots less than 12, under 50 gal.--add \$2.00.

Mass. Plumbing Requirements--On heaters with galvanized tank add \$2.00

GENERAL CONDITIONS

Prices are subject to change without notice. All agreements are contingent upon labor stoppages, fires, floods and other causes of delay beyond our control. In the event of sale based on terms of this price sheet, such sale is final and not subject to cancellation in whole or part, other than by mutual agreement.

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RETURNED GOODS

No material of any kind must be returned for credit without first securing written permission and when so returned (provided such material is new and unused), will be subject to ten percent (10%) deduction for rehandling. All transportation charges, including freight and cartage, to be paid by shipper.

HOTSTREAM LIST PRICE SHEET — AUTOMATIC STORAGE OIL WATER HEATERS

Effective **SEPTEMBER 16, 1957**

Supersedes December 20, 1956 Sheet and Supplementary No. 3 — Dated July 18, 1957

This Sheet Applies to Catalog Pages 28 & 29 Dated August 1, 1957.

MODEL NO.	30F-46	40F-46	60F-46
Tank Capacity in Gallons	30	40	60
Input Rating — High Fire, Btu per Hour	29,000	29,000	29,000
Recovery Capacity — High Fire, Gallons per hour—80° Temperature Rise	35	35	35
Sq. Feet of Radiation — Direct	157	157	157
Sq. Feet of Radiation — Standing	110	110	110
Fuel Consumption — High Fire, per Hour	30 oz.	30 oz.	30 oz.
Fuel Consumption — Low Fire (Pilot) per Hour	2 oz.	2 oz.	2 oz.
Approximate Crated Weight Lbs.	226	271	356
PRICE	\$ 143.28	\$ 162.10	\$ 192.00

Gelatin Cleaning Capsules, per dozen \$ 4.10

Fuel Oil Filter F-10B \$ 5.00

No. 30-L Diaphragm Pressure Relief Valve \$ 5.78

No. 31-L Diaphragm Pressure and Temperature Relief Valve \$ 6.60

THE HOTSTREAM HEATER CO.
2363 EAST 69th STREET CLEVELAND 4, OHIO

HOTSTREAM LIST PRICES — — SIDE ARM HEATERS & HEATER CONTROLS

Effective SEPTEMBER 16, 1957 — Supersedes December 20, 1956

This Sheet Applies to Catalog Pages Dated August 1, 1957.

Page 31

HOTSTREAM SIDEARM KEROSENE WATER HEATERS

Model No.	List Price	Number of Coils	Type of Kerosene Burner	Recovery Capacity Gallons Per Hour	Number of Hours one gallon of Kerosene Burns —		Approx. Crated Weight
					High Fire	Low Fire	
20-GK	\$32.98	4	Giant Wick	10.5	14.5	24.2	50 lbs.
40-GA	32.98	4	Giant Wickless	15.0	10.7	33.6	50 lbs.

Recovery capacities are based on a 60° temperature rise.

Oil level valve (for wickless burner heaters) installed at factory, add..... \$13.40

For repair parts see page 31 in our catalog

Page 30

HOTSTREAM SIDEARM AUTOMATIC GAS WATER HEATERS

Cast Iron Model No.	Price	Shipping Weight	Controls	Number of Coils	Coil Length	Recovery Capacity Gals. per hr. 100° Rise	Input Rating Nat. & Mfd. Gas Btu per hr.	Storage Tank Capacities recommended
20F-G1	\$ 59.50	40 lbs.	Unitrol 110	2	13½'	16.8	20,000	30 or 40 gal.
80F-G1	112.00	45 lbs.	Unitrol 110	3	36"	29.4	35,000	Up to 100
Steel Jacket Insulated S-20-G1	45.50	21 lbs.	Unitrol 110	2	13½'	19.3	23,000	30

80F-G1 — No Excise Tax — LPG Input 30,000

MODEL "S" INSULATED STEEL JACKETED HEATERS

S-20	\$23.70	18 lbs.	2	13½'	19.3	23,000	30
S-20-U	26.10	19 lbs.	2	13½'	19.3	23,000	30
S-24	28.30	20 lbs.	2	13½'	21.0	25,000	40
S-24-U	30.70	21 lbs.	2	13½'	21.0	25,000	40
S25	32.00	31 lbs.	2	13½'	22.7	27,000	40
S25-U	34.40	32 lbs.	2	13½'	22.7	27,000	40

For LPG with Safety Pilot, add \$16.50

Page 32 LARGE VOLUME — HEAVY DUTY COMMERCIAL HEATERS NO EXCISE TAX

Model No.	80-U	182	192	193	Twin 80	Twin 182	Twin 192	Twin 193
Without Controls	\$91.00	\$91.00	\$150.00	\$150.00	\$258.00	\$258.00	\$408.00	\$408.00
With ½" Thermocouple. Auto. Pilot	\$107.50	\$107.50	\$166.50	\$166.50	\$291.00	\$291.00	\$441.00	\$441.00
With ½" Thermocouple. Auto. Pilot & Thermostat†	120.00	120.00	181.00	181.00	315.20	315.20	465.20	465.20
Recommended for Storage Tanks Maximum Capacity Gallons	100	100	300	300	300	300	720	720
Input Rating 1000 Btu Per Hour	Natural Gas	35	35	65	70	70	130	130
	Manfd. Gas	45	45	65	90	90	130	130
	LP Gas	30	30	40	60	60	80	80
Recovery Cap. Gallons per Hr. 100° Temp. Rise	Natural Gas	29.4	29.4	54.6	54.6	58.8	109.2	109.2
	Manfd. Gas	37.8	37.8	54.6	54.6	75.6	109.2	109.2
	LP Gas	25.2	25.2	33.6	33.6	50.4	67.2	67.2
Sq. Ft. Hot Water Radiation	Rated — Nat. Gas	187	187	346	320	374	692	640
	Actual — Nat. Gas	140	140	260	240	262	520	480
Approximate Crated Weight — Lbs.	80	80	125	128	215	215	295	295

All Gas Connections ½" C of C of flues — Twin 80 or 182 — 13¾"; — Twin 192 or 193 — 19".

All heaters equipped with brass unions as standard equipment.

Thermostat equipment refer to catalog pages 43, 44 and 45.

Twin-heater connections are copper or brass, completely assembled, ready to connect to storage tank.

For repair parts see page 63 in our catalog

PAGE 49 HOT WATER CIRCULATOR PUMP HORIZONTAL

1-H—1" flange	\$ 81.44
1¼-H—1¼" flange	81.44
15-H—1½" union	96.70

BRONZE BODY PUMPS HORIZONTAL

14-AH—Threaded 1¼"	104.00
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MAGNETIC GAS VALVE

¾"—K3A	16.92
½"—K3A	17.56
¾"—K3A	19.30
1"—K3A	27.22
1¼"—K3A	34.60

SIDEARM HEATER, CONVERSION SET WITH AUTOMATIC PILOT

A-414-1 — For natural, manufactured or mixed gas **\$19.52**

COMPONENT PARTS

3/8-K-1 — Thermostat only (3/8") **9.90**
A-14-2-14 — Automatic vertical pilot only
 (3/8") **8.26**
 Fittings only **1.38**

AUTOMATIC PILOTS

A-14-2-14 — For natural, manufactured, or mixed gas **\$8.26**

THERMOCOUPLE AUTOMATIC PILOTS (100% SHUT-OFF TYPE)

No. 830 — 3/8" or 1/2" — Complete with lead and pilot burner **16.50**

WATER HEATER THERMOSTATS

Model No.	Price	Size Water Conn.	Size Gas Conn.	Approx. Cap. 1/2" Press. Drop Natural Gas Cu. Ft. per Hour	Approx. Weight
"THROTTLING" THERMOSTATS					
B	\$12.50	1" Male	3/8"	25.9	3 1/2 lbs.
B	12.50	1" Male	1/2"	29.9	3 1/2 lbs.
4K	7.70	1" Male	3/8"	22.6	2 lbs.

Ordered with Dirt Trap, add **\$.60**

"SNAP-ACTION" THERMOSTATS

3/8" K-1	\$ 9.90	1" Male	3/8"	49.0	1 3/4 lbs.
3/8" T	12.10	1" Male	3/8"	60.0	2 1/2 lbs.
1/2" T	13.48	1" Male	1/2"	83.7	2 1/2 lbs.
3/4" T	26.96	1" Female	3/4"	221.8	6 1/2 lbs.
1" T	32.46	1" Female	1"	241.1	6 1/2 lbs.

Equipped with independent pilot line furnished separately.....**\$2.00**

100% CONTROLS

Unitrol 110	23.10	3/4" Male	1/2"	70.3	3 lbs.
Unitrol 200	26.60	3/4" Male	1/2"	71.8	3 lbs.
General G5G	23.10	3/4" Male	1/2"	68.8	2 1/2 lbs.
Minn. V5124	23.10	3/4" Male	1/2"	70.3	3 1/2 lbs.
Minn. V5126	23.10	3/4" Male	1/2"	70.3	3 1/2 lbs.

Unitrol 110-200, — General G5G, — Minneapolis V5124 & V5126 complete with thermocouple pilot burner and lead pilot orifice and copper tubing for pilot line.

Y-THERMOWELL AND ACCESSORIES

1"-Mx3/4"-Fx1"-F (2 per ctn.) each **\$1.82**
 1"-Mx1"-Fx1"-F (2 per ctn.) each **1.82**
 Main gas valve "A" **2.30**
 Filtrap — 3/8" pipe size **2.40**
 Dirt trap — 3/8" or 1/2" **.60**
 Independent pilot line with lava tip and "B" valve **2.00**
 Lava tip (for repairs) **.20**

Page 47 **"JIFFEE" CIRCULATORS**
 12 per cartoneach **5.20**

HOTSTREAM DRAFT CONTROLS LIST PRICES

EFFECTIVE July 1, 1957

Supersedes Sheet of September 1, 1956

DRAFT HOODS

AUTOMATIC DRAFT REGULATORS

DRAFT-O-STAT

Description on Pages 39 - 40 and 41 in our No. 55 Catalog.

DRAFT HOODS

Size	No. to a Carton (Vert.)	No. to a Carton (Horiz.)	Price (Vert.)	Black Enamel (Horiz.)
3"	36	20	\$ 1.50	\$ 3.16
4"	24	12	2.06	3.98
5"	12	6	2.70	5.26
6"	8	4	3.40	6.64
7"	1	2	4.58	8.14
8"	1	1	6.86	10.66
9"	1	1	9.38	13.74
10"	1	1	13.74	19.00

3" and 4" Black Enameled.
All Others Galvanized.

AUTOMATIC DRAFT REGULATOR MODEL "CST"

Size	Safety Valve Only	Check Valve Only	Tee Only	Price Complete
3"	\$.94	\$.90	\$.90	\$ 2.74
4"	1.26	1.16	1.12	3.54
5"	1.66	1.60	1.32	4.60
6"	2.14	2.10	1.50	5.74
7"	2.66	2.52	2.04	7.22
8"	3.04	2.98	2.52	8.54

Above prices for Black.
Galvanized furnished only if specified.
For Chrome Plating--Prices on Request

AUTOMATIC DRAFT CONTROL MODEL "M"

Size and Model No.	Price Draft Control Only	Price Draft Control w/Thim.	Price Extra Individual Carton
4" - MR	\$ 1.54	\$ 2.22	\$.14
6" - MRF	1.92	2.78	.20
6" - MRFF*	1.92	2.78	.20
8" - M	2.22	3.30	.24

Size and Model No.	Price Draft Control w/Tee	Price Extra Individual Carton
4" - MR	\$ 2.40	\$.16
6" - MRF	3.08	.24
6" - MRFF*	3.08	.24
8" - M	4.16	.34

Not adjustable. Draft setting must be specified with order.
Unless specified, packed individually.

MODEL "B" DRAFT-O-STATS

Size and Model No.	Price Draft-O-Stat Only	Price Thimble Only
6" - B	\$ 2.80	\$.58
7" - B	3.28	.68
8" - B	3.78	.80
9" - B	4.30	.92
10" - B	7.66	1.02
12" - B	8.96	1.36

Size and Model No.	Price Draft-O-Stat w/Thimble
6-BT	\$ 3.38
7-BT	3.96
8-BT	4.58
9-BT	5.22
10-BT	8.68
12-BT	10.32

Domestic DRAFT-O-STATS

Size and Model No.	Price Draft-O-Stat Only	Price Thimble Only
14" - A	\$ 20.04	\$ 1.96
16" - A	24.80	4.60
18" - A	30.80	5.80
20" - A	37.20	6.80

Size and Model No.	Price Draft-O-Stat w/Thimble
14-AT	\$ 22.00
16-AT	29.40
18-AT	36.60
20-AT	44.00

COMMERCIAL DRAFT-O-STATS

Size and Model No.	Price Draft-O-Stat Only	Price Thimble Only
16" - AC	\$ 28.20	\$ 4.60
18" - AC	34.20	5.80
20" - AC	40.60	6.80
24" - C	57.70	8.60

Size and Model No.	Price Draft-O-Stat w/Thimble
16-ACT	\$ 32.80
18-ACT	40.00
20-ACT	47.40
24-CT	66.30

Furnished as standard with hand control.
Without hand control, deduct from list price \$ 2.32
Thimbles are furnished only when specified.

INDUSTRIAL DRAFT-O-STATS

Size and Model	Price Draft-O-Stat Only	Price Thimble Only
24" - I	\$ 93.18	\$ 33.90
30" - I	120.72	42.32
36" - I	146.08	59.32

Size and Model No.	Price Draft-O-Stat w/Thimble
24 - IBT	\$ 127.08
30 - IBT	163.04
36 - IBT	205.40

Furnished as standard with locking device.
Without locking device, deduct \$ 6.00.
Thimbles are furnished only when specified.

DRAFT-O-STAT REPAIR PARTS

Straps for Thimbles, 6" to 10"--\$.14
Straps for Thimbles, 12" to 20"--.22
Flutterers are 70% of the price of the Draft-O-Stat.
Rings are 40% of the price of the Draft-O-Stat.
Triple-Threaded Adjusting Rod Assemblies are 30% of the price of the Draft-O-Stat.

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HOTSTREAM

*Guarantees performance
so you can guarantee
customer satisfaction*



HOTSTREAM HEATERS will help you build your most valuable business asset — customer good will. With Hotstream, you have the decided advantage over competition of being able to offer the most complete line of automatic water heaters . . . with performance guarantees from one to ten years.

You'll be able to fill the requirements of *all* your prospects . . . whether for size, style or price. Furthermore, Hotstream Heaters *stay* sold and help to build your reputation of good will.

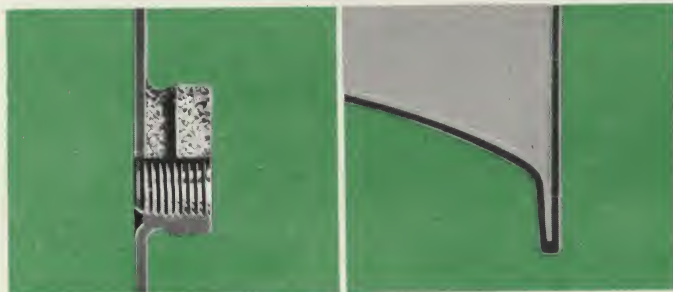
Construction features of all models are listed for review. On the following pages, describing each model, the specific construction features are shown.

These features combine to make HOTSTREAM water heaters **FIRST** in Performance . . . Durability . . . Economy . . . Beauty.

ACCESSIBILITY These heaters are designed with all controls immediately accessible for adjustment or service. The burner assembly can be removed through the door by disconnecting a union connection outside the heater. The burner can then be lifted out without any further fumbling . . . no bolts or cotter pins. All controls are outside of the heater or otherwise away from the heat zone where they might be affected by the extreme temperatures of the combustion chamber. Complete lighting instructions are located at the front of each heater just above the controls where they can be conveniently read while following instructions.

STORAGE TANKS Available in a steel tank, heavily galvanized inside and out with virgin spelter. Forged steel bushings, heads, bottoms, and flues are electrically welded with heavy gauge shell forming a double - extra - heavy, hydrostatically - tested storage tank. Internal-flue models also have apron extending to bottom of heater to form the combustion chamber.

Heaters are also available with tanks made of steel stonelined, steel glasslined, and aluminum. These three types eliminate the possibility of rust, stain and corrosion. The data for each model will be found



on the following pages.

Galvanized steel tanks are not recommended for domestic purposes for:

1. Water over 140.
2. When connected to copper supply lines.
3. For soft water (0-4 grains).
4. With water softeners.

For these conditions we recommend the use of a stonelined heater.

CONTROLS Hotstream automatic water heaters are equipped with different types of thermostat and automatic pilot combinations.

Kilroy Hotstream Controls Thermostat is positive-acting, close differential snap-action type, equipped with a customer temperature indicator adjustment lever. Design is simple and trouble-free. Controls flow of gas to main burner.

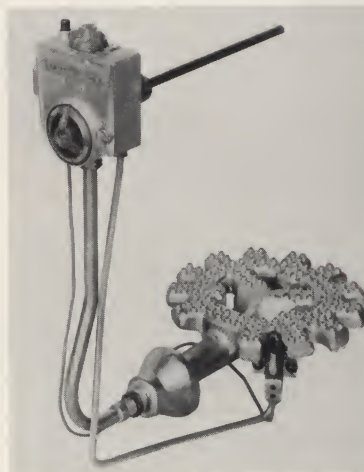
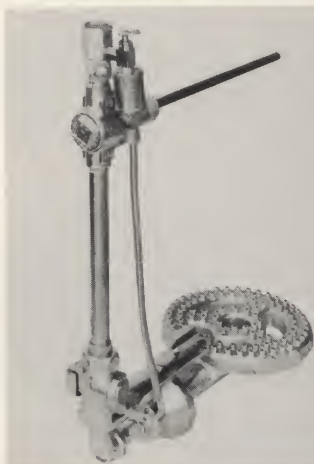
Automatic Pilot is a simple monotherm type with power unit of highly heat resistant, electro-polished, stainless steel element, which will not fatigue. Shuts off gas supply to main burner in event of pilot flame failure. Separate main "A" and "B" pilot combination valve is equipped with throttling pilot adjustment.

Designed to operate on city gases only.

Unitrol 110, 200 & 400 — Minneapolis Honeywell V5124 & V5126 or General G5G Electro-magnetic thermocouple automatic pilot (100% shutoff type) in combination with snap-action thermostat. Thermostat controls flow of gas to main burner. Automatic pilot shuts off gas supply to main burner and to the pilot burner in the event of pilot flame failure. A positive close differential snap-action thermostat which is equipped with a dial-type customer temperature adjustment. Main gas valve "A" and pilot valve "B" are integral parts. Pilot valve is equipped with a built-in throttling adjustment. Is equipped with a pilot filter which prevents impurities in the gas line from plugging the orifices. Beautifully finished with handsome adjusting knobs and valve handles.

Designed to operate on all gases including liquefied petroleum gas.

BURNER DISPLAY ASSEMBLIES



BURNER Blue flame, bunsen-type drilled burner with raised ports made of cast iron, finished with rust and heat-resistant aluminum coating. The air mixing chamber's cast integral with the burner. Ports are accurately drilled to insure operation at rated capacity for every type of gas. Quiet, efficient, economical operation. (1)

BELL AIR - MIXER - SHUTTER Exclusive design. Introduces heated primary air into burner mixing chamber for increased efficiency. Adjustments are made by simply rotating the bell in either direction from outside the heater. Prevents burning back into mixer, regardless of type of gas.

COMBUSTION SEPARATOR This is a steel plate with rust and heat-resistant coating, supported immediately above the burner in the combustion chamber. It prevents the mixing of burnt gases with fresh incoming secondary air in the combustion chamber. It insures perfect combustion and increased efficiency. Designed also, to evaporate condensation. (2)

FLOOR SHIELD Guides the direction of incoming secondary air so that it is preheated, resulting in better combustion. Prevents heat losses through the base, improving the efficiency. Acts also as a floor shield keeping the floor extremely cool. (3)

DRAFT HOOD Designed to insure proper combustion and to prevent down drafts from affecting heater operation. Insures ready escape of products of combustion in event of no draft or stoppage in the flue or chimney. (4)

FLUE BAFFLE Highly efficient spiral steel baffle which is suspended inside the flue of internal-flue models. Designed to transmit the heat of flue gases directly into the water surrounding the flue wall. Painstaking laboratory tests were required to engineer special baffles for each model. (5)

FLUE LINER Special alloy aluminized steel. Cylindrical shell, forms the outer surface of the flue on outside flue models. Properly spaced from storage tank to give perfect baffling and scrubbing effect to heated gases as they pass out to the flue.

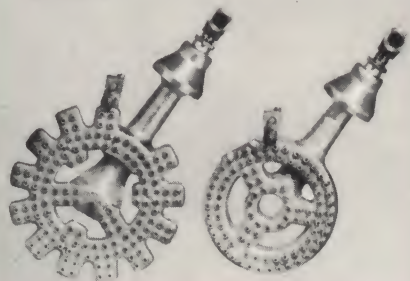
INSULATION Completely insulated on top and sides with Fiberglas to prevent dissipation of heat. Holds water hot longer with greater operating economy. Highly efficient . . . non-combustible . . . non-settling. Retains insulating efficiency for life of heater. Flexible blanket of glass fibers which are non-corrosive and rotproof.

DIP TUBE Plastic — can't rust out or corrode. Drilled to prevent syphoning. Correct length tube is used in each automatic heater to insure proper distribution of cold water near the bottom of the tank.

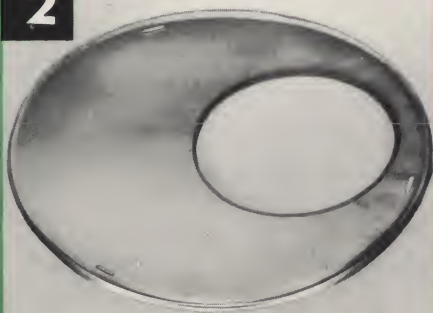
CLEAN-OUT on D-50R2 — D-75R2 — D-80R2 & D-100R2 access opening 2" size with drain valve. Booster heaters furnished with large oval clean out, for removing sediment from the bottom of the tank. (6)

DOOR AND FRAME Heavy gage steel stamping with modern styling. Door lifts out permitting full access to combustion chamber for easier lighting and adjustments. Built in heat deflector. (7)

1



2



3



4



5



LEGS Modern styling, pressed steel legs. Three or four of these sturdy legs support the heater (8) below.

DRAIN VALVE Neatly designed valve which permits quick draining. Located near bottom of tank for full drainage. Threaded for hose connection. Polished chrome valve handle (9) below.

RELIEF VALVE A diaphragm temperature and pressure relief valve is recommended for installation on all automatic storage water heaters. See the full description of various types on page 51.

PILOT FILTER Designed to filter dirt, scale, or other impurities so that they will not plug the pilot orifice. For all gases.

GAS PRESSURE REGULATOR Standard equipment on several models. Not required on models for liquefied petroleum gas. Prevents fluctuations of gas pressure from affecting heater operation. Recommended as extra equipment at a slight additional charge on all other models. See page 47.

MAGNESIUM ROD Special alloy which actually "sacrifices" itself to protect the tank from corrosion. See full description on page 52.

DIELECTRIC UNION Flange type insulating union for use wherever copper or other non-ferrous materials are connected to automatic water heaters with galvanized tanks. Warranties are null and void if Dielectric Unions are not used wherever copper lines are connected to Hotstream automatic water heaters with galvanized tanks. Available as extra equipment on all models. Full description on page 48.

LIQUEFIED PETROLEUM GAS Hotstream heaters that are furnished for use with liquefied petroleum gas are equipped with combination thermocouple automatic pilot and thermostat, which shuts off all gas to main burner and pilot in case of pilot failure.

OUTER JACKET Fabricated of heavy gage, fine grade steel. Painted on inside and outside surfaces with rust and stain resistant baked enamel finish. All openings are die-stamped. Decorative inverted beads surround the drum about the controls.

FINISH A beautiful combination white with gray, green, orchid, or blue trim, high lustre electrostatically sprayed, infra-red baked enamel. Stainless steel trim. Finish will not discolor, chip or crack.

INSTALLATION Water connections are made at the top of the heater. Nipples projecting through the jacket top are equipped with thread protectors when leaving the factory. Flue connection is also made from the top of all round model heaters. Gas connections are made directly into the thermostat on most models. Sizes of connections and locations will be found on the following pages describing each model. Complete instructions are furnished with each heater.

HOW TO ORDER Specify model number which includes capacity and show type of gas on which the heater is to be used.

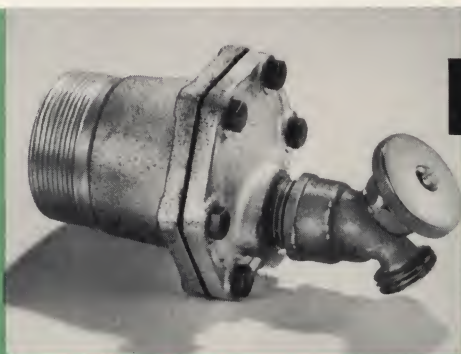
Add a suffix "B" to the model numbers when the heater is required for any liquefied petroleum gas such as propane, propane air, butane or butane-air.

Add suffix "M" for magnesium rod.

Add suffix designation for type control desired. Shown with specifications for various models.

Specify also, whether any other extras are desired such as relief valves, gas pressure regulators, "TP" Safetystat high temperature gas shut-off valve or Dielectric Unions.

MASSACHUSETTS REQUIREMENTS Heaters complying with Massachusetts State plumbing requirements will be supplied, when specified, with brass water fittings and data plates for a slight additional charge on heaters with galvanized tanks.



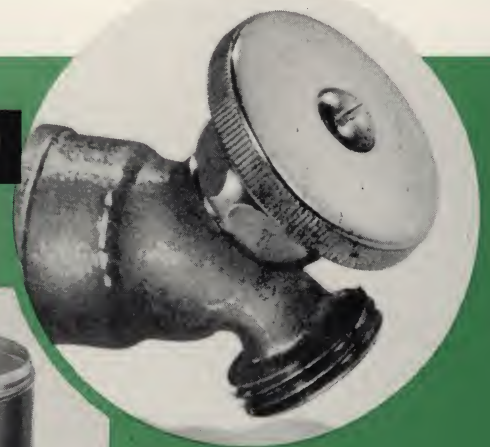
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7

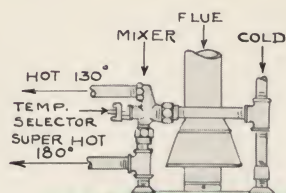


8



9

Let's Look Into This



1. AGGREGATE STONE—rust prevention.
 2. Sealed against rust.
 3. STEEL — for strength.
- The aggregate lining is $\frac{3}{8}$ -inch—ample for strength and enduring protection against corrosion, rust and stain.

HOTSTREAM

MODEL "A-SL" — STONE LINED

GAS AUTOMATIC WATER HEATER

Can be used with temperatures over 160°

NO RUST — NO STAIN — NO CORROSION

FEATURES

- Stone Lined Steel Storage Tank. 300 lb. Test 127½ lbs. Working Pressure.
- Unitrol 200 — Thermocouple control is standard. Designed to operate on all gases including liquefied petroleum gases.
- Automatically shuts off the gas supply to main burner and pilot in event of pilot flame failure.
- Blue Flame, raised, drilled port burner.
- Exclusive Bell Air-Mixer-Shutter.
- Floor Shield, Secondary air Deflector and pre-heater.
- Approved vertical draft hood.
- External Flue.
- Aluminized steel flue liner, rust-resisting.
- Fiberglass insulation — minimum thickness 1½" top and sides.
- Plastic dip tube — Cannot rust or corrode.
- Modernistic steel door and frame.
- Pressed steel legs — streamlined designed.
- Drain valve with threaded hose connection.
- Pilot filter for all gases at no extra charge.
- Outer steel drum, painted inside and out.
- Beautiful white baked enamel finish with green and stainless steel trim.

REASONS FOR STONELINED TANK

The life expectancy of a hot water heater is materially shorter today than ever before for these reasons; automatic dishwashers and clothes washers demand large amounts of extremely hot water, forty to fifty degrees hotter than ordinary domestic hot water.

The wide-spread use of copper supply lines have brought galvanic corrosion into unprecedented importance. Magnesium rods help overcome many corrosion problems but at best can only do part of the job. There are some districts where they have a bad effect on the water, such as, odor, grit, gas, cloudiness and turn silverware black. They form a sludge accumulation in the tank that results in a loud cracking noise during the heating period.

The complete answer to the problem of heating large amounts of high-temperature water that is free from rust stain and corrosion is the stone-lined tank.

"A-60-SL-PR"

HIGH INPUT — NO EXCISE TAX

This high-input heater is especially designed for use in large homes, apartments, hotels, garages or wherever a large amount of hot water is desired.

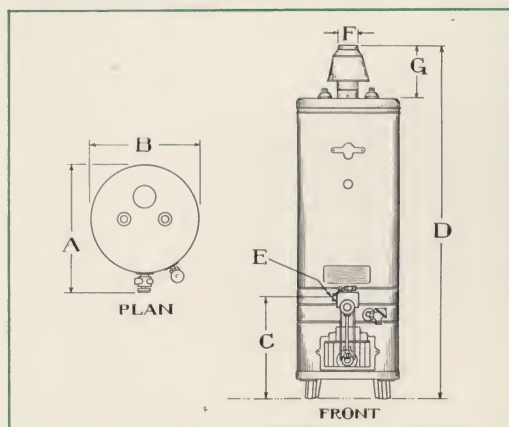
Galvanized steel tanks supplied when specified.



A-40SL-DT

DOUBLE TEMP STONE LINED HEATER

Adjustable two temperature water from one heater. Up to 180° Super hot water for dishwashers, laundry washers and many commercial uses. 130° hot water for normal household or washroom water.



10-YEAR WARRANTY

Stone lined storage tank warranted for ten years. Last five year period on an annual prorated basis.

Galvanized storage tank warranted for ten years. Last eight on a prorated basis. One year warranty on all other parts.

Add suffix letter "B" to Model No. for L P G Heaters.

Add suffix letter "DT" to Model No. for Double temperature Heaters.

	A-30-SL	A-40-SL	A-60-SL-PR City Gases	A-60-SLB LPG
A Greatest Depth	22"	26"	28"	28"
B Diameter of jacket	18"	22"	24"	24"
C Height of gas valve	21"	21"	21"	21"
D Over all height of heater	71"	67"	76"	76"
E Size gas Connection	½"	½"	½"	½"
F Diameter of flue	3"	4"	4"	4"
G Top of heater to hood	8"	10"	10"	10"
Size water Connection	¾"	¾"	¾"	¾"
Gallon Capacity of Tank	26.6	40	60	60
Recovery gallons per hour 60° temperature rise.	Nat. gas	49.0	56.0	70.0
	Mfd. gas	56.0	56.0	70.0
	L P gas	42.0	42.0	42.0
Recovery gallons per hour 100° temperature rise.	Nat. gas	29.4	33.6	42.0
	Mfd. gas	33.6	33.6	42.0
	L P gas	25.2	25.2	25.2
BTU Input per hour	Nat. gas	35,000	40,000	50,000
	Mfd. gas	40,000	40,000	50,000
	L P gas	30,000	30,000	30,000
Approx. Crated Weight	265	335	475	475
"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.				

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



HOTSTREAM ALLUMATIC

MODEL "AL" — EXTERNAL-FLUE

ALUMINUM TANK

GAS AUTOMATIC STORAGE WATER HEATER

No Rust!

No Stain!

No Corrosion!

"ALLUMATIC" ALUMINUM STORAGE TANK

Storage tank of famous rustproof aluminum is the latest word in the fight against rust and corrosion. Aluminum can never rust! Hydrostatic test pressure, 300 p.s.i.; working pressure, 127½ p.s.i.

Plastic dip tube cannot rust or corrode.

Drain valve with threaded hose connection.

CONTROLS

Unitrol No. 110 combination thermocouple automatic pilot and thermostat. Automatically shuts off all gas to the heater, in the event of pilot failure. For use with all gases, including liquefied petroleum gases.

Drilled port burner incorporating our exclusive bell air-mixer shutter.

EXTERNAL FLUE CONSTRUCTION FOR HIGH INPUT

Fiberglas insulation is placed between aluminized steel flue liner and outer steel drum.

Steel drum is painted inside and outside a beautiful, white, baked enamel.

Trim of top base, modernistic door and frame and sturdy legs — orchid.

DOUBLE TEMP ALUMINUM HEATER

Adjustable two temperature water from one heater. Up to 180° Super hot water for dishwashers, laundry washers and many commercial uses. 130° hot water for normal household or wash-room water.



AL-40-G1-DT

Add suffix letter "B" to Model No. for LPG Heaters.
Add suffix letters "DT" to Model No. for Double Temperature Heaters.

Sizing Chart

MINIMUM Recommendations for
Normal Average Hot Water Requirements

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity Required
1	1 to 4	30 gal.
2	2 or 3	30 gal.
2	4 or 5	40 gal.

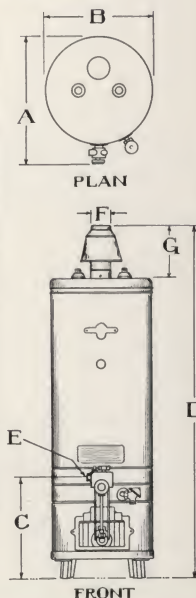
With Automatic Clothes or Dishwasher, use larger size

10-YEAR WARRANTY

Storage tank warranted for ten years. Last Five year period on an annual prorated basis. One-year warranty on all other parts.

MODEL No.		AL-30-G1	AL-40-G1
A Greatest Depth		22"	26"
B Diameter of Jacket		18"	22"
C Height to Gas Valve		21"	21"
D Over-all Height of Heater		71"	67"
E Size of Gas Connection		½"	½"
F Diameter of Flue Connection		3"	4"
G Top of heater to top of hood		8"	10"
Size of Water Connection		¾"	¾"
Tank Capacity in Gallons		30	40
Recovery Capacity Gals. per hour at 100° Temp. Rise	Nat. Gas	29.4	33.6
	Mfd. Gas	33.6	33.6
	LP Gas	25.2	25.2
Btu Input — per hour	Nat. Gas	35,000	40,000
	Mfd. Gas	40,000	40,000
	LP Gas	30,000	30,000
Approx. Crated Weight		159	230

"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.





HOTSTREAM

Combination Stone-Lined and Glass-Lined

Off-Center Flue Tank. For Longer Flame Travel

Gas Automatic Storage Water Heater.



"NO-RUST"

"NO-STAIN"

"NO-CORROSION"

The inner wall and top are lined with a durable stonelining that cannot rust, stain, or corrode. The flue and tank bottom are glass-lined.

Hydrostatic test pressure, 300 p.s.i.; working pressure, 127½ p.s.i.

Plastic dip tube cannot rust or corrode.

Drain valve with threaded hose connection.

Fiberglass insulation encase top and sides.

Specially-designed steel flue baffle.

Floor Shield, secondary air deflector and pre-heater.

CONTROLS AND WORKING PARTS

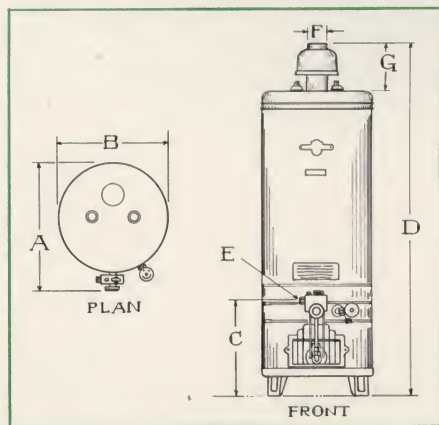
Kilroy Hotstream controls, safety pilot and thermostat for city gases only.

100% Controls combination, thermocouple, automatic pilot and thermostat for a slight additional charge, for all gases, including liquefied petroleum gases.

Blue flame, drilled-port burner incorporating our exclusive bell air-mixer shutter for easy adjustment.

GOOD APPEARANCE AND STURDY CONSTRUCTION

Heavy-gauge steel jacket white, baked enamel. Green trim, baked enamel: Modernistic steel door, Sturdy steel legs and heavy-gauge steel top and base.



MODEL No. for LPG Heaters add Suffix Letter "B"	H-30-SL-K	H-40-SL-K	H-50-SL-K
A Greatest Depth	21½"	23½"	25½"
B Diameter of Jacket	18"	20"	22"
C Height to Gas Valve	20"	20"	20"
D Over-all Height of Heater	61"	63"	63"
E Size of Gas Connection	½"	½"	½"
F Diameter of Flue Connection	3"	3"	3"
G Top of Heater to top of Hood	6½"	6½"	6½"
Size of Water Connection	¾"	¾"	¾"
Tank Capacity in Gallons	30	40	50
Recovery Capacity Gals. per hr. at 100° Temp. Rise	Nat. Gas	25.2	25.2
	Mfd. Gas	25.2	25.2
	LP Gas	25.2	25.2
Btu Input — Per Hour	Nat. Gas	30,000	30,000
	Mfd. Gas	30,000	30,000
	LP Gas	30,000	30,000
Approx. Crated Weight	235	271	351

NOTE: With 100% Controls use suffixes below instead of "K"

"K" — Kilroy Hotstream — City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" — Unitrol 110 "G4" — Unitrol 400

"G2" — Unitrol 200 "G5" — General G5G

"V" — Minneapolis Honeywell V5124

"V6" — Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.

FIVE-YEAR WARRANTY

Storage tank warranted for five years. Last four year period on an annual prorated basis. One year warranty on all other parts.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



HOTSTREAM

De Luxe EVERGLAS

GAS AUTOMATIC STORAGE WATER HEATER

NO RUST!

NO STAIN!

NO CORROSION!

GLASS LINED TANK

Hotstream quality built "De Luxe Everglas" water heaters are provided with a heavy gauge steel tank lined with the highest quality glass lining available.

Hydrostatic test pressure, 300 P. S. I.: working pressure, 127½ P.S.I.

DE LUXE FEATURES

Approved draft hood, Hot & Cold Copper supply nipples. Two inch fiberglass insulation. Magnesium rod. Plastic dip tube that cannot rust or corrode. Off-center flue for longer flame travel. Drain Valve with thread hose connection.

A white baked enamel finish trimmed with blue and stainless steel for a truly beautiful water heater.

CONTROLS

Unitrol Model 200 combination thermocouple automatic pilot and thermostat. Automatically shuts off all gas in the event of pilot failure. For all gases, including liquefied petroleum gases. Pressure regulator included for city gases permits constant input regardless of line pressure fluctuations.

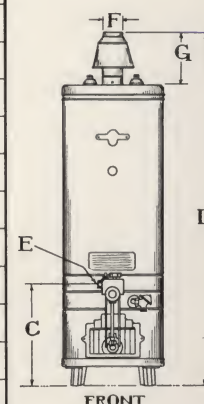
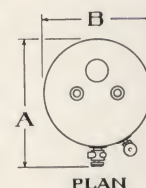


DG-40-G2

10-YEAR WARRANTY

Storage tank warranted for ten years. Last Five year period on an annual pro-rated basis. One-year warranty on all other parts.

MODEL No. for LPG Heaters add Suffix Letter "B"		DG-30-G2	DG5-30-G2 SHORTY	DG-40-G2	DG1-40-G2 LONGY	DG-50-G2
A Greatest Depth		21 ½"	23 ½"	25 ½"	23 ½"	27 ½"
B Diameter of Jacket		18"	20"	22"	20"	24"
C Height to Gas Valve		20"	20"	20"	20"	20"
D Over-all Height of Heater		68 ½"	57 ¾"	60"	70"	60 ¾"
E Size of Gas Connection		½"	½"	½"	½"	½"
F Diameter of Flue Connection		3"	3"	3"	3"	3"
G Top of Heater to top of Hood		7 ¾"	7 ¾"	7 ¾"	7 ¾"	7 ½"
Size of Water Connection		¾"	¾"	¾"	¾"	¾"
Tank Capacity in Gallons		30	30	40	40	50
Recovery Capacity Gals. per hr. at 100° Temp. Rise	Nat. Gas	29.4	29.4	30.3	30.3	31.9
	Mfd. Gas	29.4	29.4	30.3	30.3	31.9
	LP Gas	25.2	25.2	25.2	25.2	25.2
Btu Input — Per Hour	Nat. Gas	35,000	35,000	36,000	36,000	38,000
	Mfd. Gas	35,000	35,000	36,000	36,000	38,000
	LP Gas	30,000	30,000	30,000	30,000	30,000
Approx. Crated Weight		200	200	270	270	290



THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS

HOTSTREAM EVERGLAS

GLASS LINED

GAS AUTOMATIC STORAGE WATER HEATER



No Rust!

No Stain!

No Corrosion!

This glass-lined tank is made of the highest-quality glasslining fused to a heavy-gauge steel shell, built into an automatic storage water heater, which will provide clear, clean, hot water for a long time to come. An ideal tank for aggressive water areas.

- Approved vertical draft hood
- Hot and cold supply nipples — copper
- Fiberglass insulation — minimum thickness 1" top and sides
- Specially designed steel baffle
- Magnesium Rod
- Plastic dip tube — Cannot rust or corrode
- Glass lined storage tank: 300 lb. test, 127½ lbs. working pressure
- Off-center flue—for longer flame travel
- GLA-60-G2. Glass lined external flue construction.
- Drain valve with threaded hose connection
- Beautiful white baked enamel finish with blue and stainless steel trim
- One-hundred-percent-shutoff Controls—combination, thermocouple, automatic pilot and thermostat for liquefied petroleum or city gases.

Automatically shuts off the gas supply to the main burner and pilot, in the event of pilot flame failure.

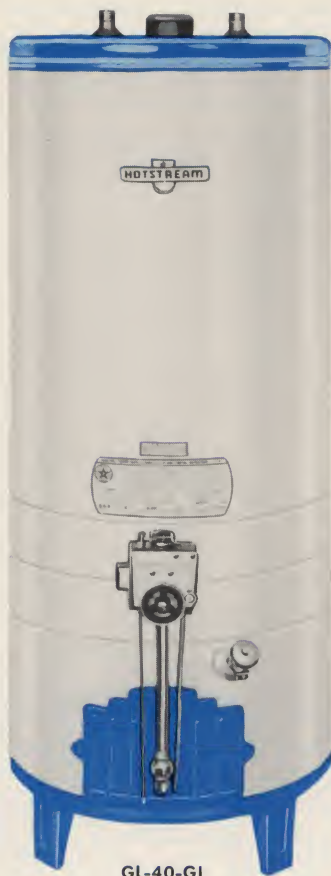
- Hotstream Kilroy Controls

Designed to operate on city gases only

Automatic pilot shuts off gas supply to main burner only in event of pilot flame failure.

TEN-YEAR WARRANTY

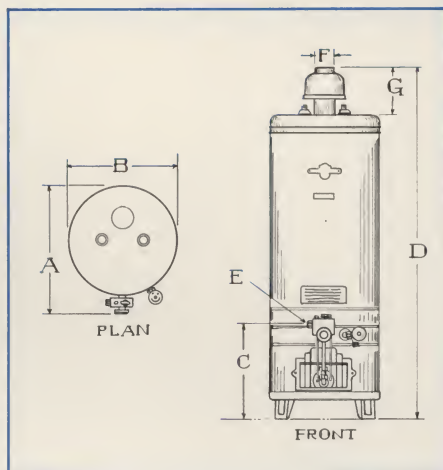
Storage tank warranted for ten years, the last five pro-rated. One year warranty on all other parts.



GL-40-G1



GL-30-K



MODEL No. for LPG Heaters add Suffix Letter "B"	GL-20	GL-30	GLS-30 Shorty	GL-40	GLL-40 Longy	GL-50	GLA-60-G2
A Greatest Depth	17½"	19½"	21½"	23½"	21½"	25½"	28"
B Diameter of Jacket	14"	16"	18"	20"	18"	22"	24"
C Height to Gas Valve	20"	20"	20"	20"	20"	20"	21"
D Over-all Height of Heater	62"	67"	56"	58½"	68½"	59½"	76"
E Size of Gas Connection	½"	½"	½"	½"	½"	½"	½"
F Diameter of Flue Connection	3"	3"	3"	3"	3"	3"	4"
G Top of Heater to Top of Hood	6½"	6½"	6½"	6½"	6½"	6½"	10"
Size of Water Connection	¾"	¾"	¾"	¾"	¾"	¾"	¾"
Tank Capacity in Gallons	20	30	30	40	40	50	60
Recovery Capacity Gals. per hr. at 100° Temp. Rise	Nat. Gas	16.8	25.2	25.2	25.2	25.2	42.0
	Mfd. Gas	16.8	25.2	25.2	25.2	25.2	42.0
	LP Gas	16.8	25.2	25.2	25.2	25.2	25.2
Btu Input — Per Hour	Nat. Gas	20,000	30,000	30,000	30,000	30,000	50,000
	Mfd. Gas	20,000	30,000	30,000	30,000	30,000	50,000
	LP Gas	20,000	30,000	30,000	30,000	30,000	30,000
Approx. Crated Weight	128	160	150	200	200	288	290

Add Suffix to Model Number to Indicate Control Desired

"K" — Kilroy Hotstream — City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" — Unitrol 110

"G4" — Unitrol 400

"G2" — Unitrol 200

"G5" — General G5G

"V" — Minneapolis Honeywell V5124

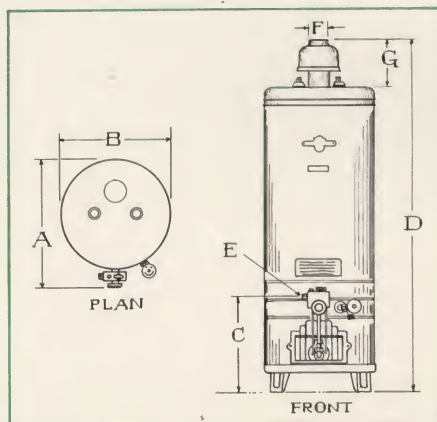
"V6" — Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



D-40-G2



TEN-YEAR WARRANTY

Storage tank warranted for ten years. Last eight year period on an annual prorated basis. One year warranty on all other parts.



HOTSTREAM

AMERICAN — MODEL "D"

OFF CENTER FLUE TANK FOR LONGER FLAME TRAVEL GAS AUTOMATIC STORAGE WATER HEATER

- Accessibility of Controls
- Galvanized Copper Bearing Steel Storage Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Off-center flue — for longer flame travel
- Unitrol 200 Combination
- Combination Thermocouple Automatic Pilot and Thermostat
 - Designed to operate on all gases including liquefied petroleum gases
 - Automatically shuts off the gas supply to main burner and pilot in event of pilot flame failure
- Blue Flame, raised, drilled port burner
- Exclusive Bell Air-Mixer-Shutter
- Floor Shield, secondary air deflector and pre-heater
- Approved vertical draft hood
- Specially designed steel baffle
- Fiberglass insulation — minimum thickness 2" top and sides
- Plastic dip tube — Cannot rust or corrode
- Modernistic steel door and frame with heat baffle
- Pressed steel legs — streamlined design — bolted to tank
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Outer steel drum, painted inside and out
- Beautiful white baked enamel finish with green and stainless steel trim

MODEL "D" SIZING CHART

MINIMUM Recommendations for
Normal Average Hot Water Requirements

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity Reduced
1	1 or 2	20 gal.
1	3 or 4	30 gal.
3	3 or 4	50 gal.

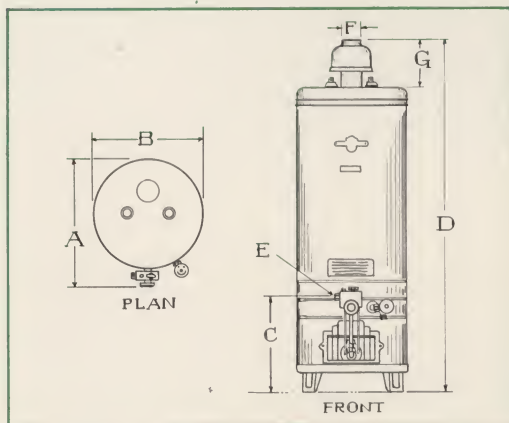
With Automatic Clothes or Dishwasher, use larger size.

MODEL No. for LPG Heaters Add Suffix Letter "B"		D-6-G2	D-20-G2	D-30-G2	DS-30-G2 Shorty	D-40-G2	DL-40-G2 Longy	D-50-G2-PR	D-50-G2-B LPG
A	Greatest Depth	18"	19½"	21½"	23½"	25½"	23½"	27½"	27½"
B	Diameter of Jacket	14"	16"	18"	20"	22"	20"	24"	24"
C	Height to Gas Valve	19"	20"	20"	20"	20"	20"	20"	20"
D	Overall Height of Heater	36"	62"	67"	56"	58½"	68½"	60½"	59½"
E	Size of Gas Connection	½"	½"	½"	½"	½"	½"	½"	½"
F	Diameter of Flue Conn.	3"	3"	3"	3"	3"	3"	3"	3"
G	Top of heater to top of hood	6½"	6½"	6½"	6½"	6½"	6½"	7½"	6½"
Size of Water Connection		¾"	¾"	¾"	¾"	¾"	¾"	¾"	¾"
Tank Capacity in Gallons		6	20	30	30	40	40	50	50
Recovery Capacity Gals. per Hour at 100° Temp. Rise	Nat. Gas	12.6	16.8	25.2	25.2	25.2	25.2	31.9	
	Mfd. Gas	12.6	16.8	25.2	25.2	25.2	25.2	31.9	
	LP Gas	12.6	16.8	25.2	25.2	25.2	25.2		25.2
Btu Input — Per Hour	Nat. Gas	15,000	20,000	30,000	30,000	30,000	30,000	38,000	
	Mfd. Gas	15,000	20,000	30,000	30,000	30,000	30,000	38,000	
	LP Gas	15,000	20,000	30,000	30,000	30,000	30,000		30,000
Approx. Crated Weight		114	160	192	192	240	240	290	290

"TP" Safetystat, high-temperature gas shutoff, or Diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.



H-30-K



FIVE-YEAR WARRANTY

Storage tank warranted for five years. Last four year period on an annual pro-rated basis. One year warranty on all other parts.



HOTSTREAM

THE OHIOAN — MODEL "H"

GAS AUTOMATIC STORAGE WATER HEATER

- Accessibility of Controls
- Galvanized Copper Bearing Steel Storage Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Off-center flue—for longer flame travel
- Hotstream Kilroy Controls
Designed to operate on city gases only
Automatic pilot shuts off gas supply to main burner only in event of pilot flame failure
- One-hundred-percent-shutoff Controls — combination, thermocouple, automatic pilot and thermostat for liquefied petroleum or city gases.
Automatically shuts off the gas supply to the main burner and pilot, in the event of pilot flame failure.
- Blue Flame, raised, drilled port burner
- Exclusive Bell Air-Mixer-Shutter
- Floor Shield, secondary air deflector and preheater
- Approved vertical draft hood
- Fiberglas insulation — minimum thickness 1" top and sides
- Specially designed steel baffle
- Plastic dip tube — Cannot rust or corrode
- Modernistic steel door and frame with heat baffle
- Pressed steel legs — streamlined design — bolted to tank
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Outer steel drum, painted inside and out
- Beautiful white baked enamel finish with gray and stainless steel trim

MODEL "H" SIZING CHART

MINIMUM Recommendations for

Normal Average Hot Water Requirements

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity Reduced
1	1	20 gal.
1	2 or 3	30 gal.
2	2 or 3	40 gal.
3	3 or 4	50 gal.

With Automatic Clothes or Dishwasher, use larger size.

MODEL No. for LPG Heaters Add Suffix Letter "B"	H-20	H-30	HS-30 SHORTY	H-40	HL-40 LONGY	H-50	H-50- PR
A Greatest Depth	17½"	19½"	21½"	23½"	21½"	25½"	25½"
B Diameter of Jacket	14"	16"	18"	20"	18"	22"	22"
C Height to Gas Valve	20"	20"	20"	20"	20"	20"	20"
D Over-all Height of Heater	62"	67"	56"	58½"	68½"	59½"	60½"
E Size of Gas Connection	½"	½"	½"	½"	½"	½"	½"
F Diameter of Flue Conn.	3"	3"	3"	3"	3"	3"	3"
G Top of heater to top of flue	6⅞"	6⅞"	6⅞"	6⅞"	6⅞"	6⅞"	7⅞"
Size of Water Connection	¾"	¾"	¾"	¾"	¾"	¾"	¾"
Tank Capacity in Gallons	20	30	30	40	40	50	50
Recovery Capacity Gals. per hr. at 100° Temp. Rise	Nat. Gas	16.8	25.2	25.2	25.2	25.2	31.9
	Mfd. Gas	16.8	25.2	25.2	25.2	25.2	31.9
	LP Gas	16.8	25.2	25.2	25.2	25.2	
Btu Input — Per Hour	Nat. Gas	20,000	30,000	30,000	30,000	30,000	38,000
	Mfd. Gas	20,000	30,000	30,000	30,000	30,000	38,000
	LP Gas	20,000	30,000	30,000	30,000	30,000	
Approx. Crated Weight	124	150	150	198	198	294	294

Add Suffix to Model Number to Indicate Control Desired

"K" — Kilroy Hotstream — City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" — Unitrol 110

"G4" — Unitrol 400

"G2" — Unitrol 200

"G5" — General G5G

"V" — Minneapolis Honeywell V5124

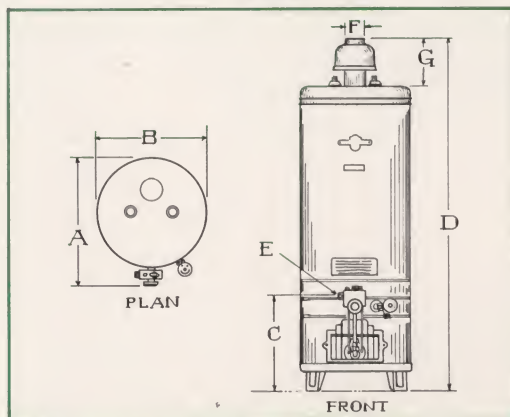
"V6" — Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or Diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



Y-30-K



MODEL Y THREE-YEAR WARRANTY

Model Y Storage Tank warranted for three years. Last two years on annual pro-rated basis. One year warranty on all other parts.



HOTSTREAM

THE LONGHORN — MODEL Y

Gas Automatic Storage Water Heater

- Accessibility of Controls
- Galvanized Steel Storage Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Off-center flue—for longer flame travel
- Hotstream Kilroy Controls
Designed to operate on city gases only
Automatic pilot shuts off gas supply to main burner only in event of pilot flame failure
- One-hundred-percent-shutoff Controls—combination, thermocouple, automatic pilot and thermostat for liquefied petroleum or city gases.
Automatically shuts off the gas supply to the main burner and pilot, in the event of pilot flame failure
- Blue Flame, raised, drilled port burner
- Exclusive Bell Air-Mixer-Shutter
- Floor Shield, secondary air deflector and pre-heater
- Approved vertical draft hood
- Specially designed steel baffle
- Fiberglass insulation — minimum thickness 1" top and sides
- Plastic dip tube—Cannot rust or corrode
- Modernistic steel door and frame
- Pressed steel legs—streamlined design
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Beautiful white baked enamel finish with gray trim

SIZING CHART

MINIMUM Recommendations for Normal Average Hot Water Requirements

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity Reduced
1	1 or 2	20 gal.
1	2 or 3	30 gal.
2	2 or 3	40 gal.
3	3 or 4	50 gal.

With Automatic Clothes or Dishwasher, use larger size.

MODEL No. for LPG Heaters add Suffix Letter "B"	Y-20	Y-30	YS-30 Shorty	Y-40	YL-40 Longy	Y-50
A Greatest Depth	17½"	19½"	21½"	23½"	21½"	25½"
B Diameter of Jacket	14"	16"	18"	20"	18"	22"
C Height of Gas Valve	20"	20"	20"	20"	20"	20"
D Over-all Height of Heater	62"	67"	56"	58½"	68½"	59½"
E Size of Gas Connection	½"	½"	½"	½"	½"	½"
F Diameter of Flue Connection	3"	3"	3"	3"	3"	3"
G Top of Heater to top of Hood	6⅞"	6⅞"	6⅞"	6⅞"	6⅞"	6⅞"
Size of Water Connection	¾"	¾"	¾"	¾"	¾"	¾"
Tank Capacity in gallons	20	30	30	40	40	50
Recovery Capacity Gals. per hour at 100° Rise	Nat. Gas	16.8	25.2	25.2	25.2	25.2
	Mfd. Gas	16.8	25.2	25.2	25.2	25.2
	L.P. Gas	16.8	25.2	25.2	25.2	25.2
Btu Input — Per hour	Nat. Gas	20,000	30,000	30,000	30,000	30,000
	Mfd. Gas	20,000	30,000	30,000	30,000	30,000
	L.P. Gas	20,000	30,000	30,000	30,000	30,000
Approx. Crated Weight	125	150	150	190	190	283

Add Suffix to Model Number to Indicate Control Desired

"K" — Kilroy Hotstream — City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" — Unitrol 110

"G4" — Unitrol 400

"G2" — Unitrol 200

"G5" — General G5G

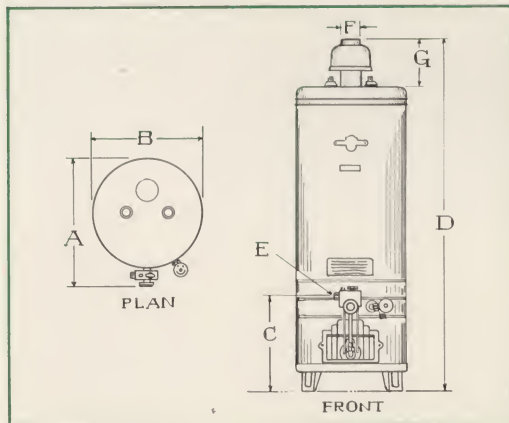
"V" — Minneapolis Honeywell V5124

"V6" — Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or Diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.



X-30-K



MODEL X ONE-YEAR WARRANTY

Storage tank and other parts warranted for one year.



HOTSTREAM

THE TEXAN — MODEL "X"

Gas Automatic Storage Water Heater

- Accessibility of Controls
- Galvanized Steel Storage Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Off-center flue—for longer flame travel
- Hotstream Kilroy Controls
Designed to operate on city gases only
Automatic pilot shuts off gas supply to main burner only in event of pilot flame failure
- One-hundred-percent-shutoff Controls—combination, thermocouple, automatic pilot and thermostat for liquefied petroleum or city gases
Automatically shuts off the gas supply to the main burner and pilot, in the event of pilot flame failure
- Blue Flame, raised, drilled port burner
- Exclusive Bell Air-Mixer-Shutter
- Floor Shield, secondary air deflector and pre-heater
- Approved vertical draft hood
- Specially designed steel baffle
- Fiberglas insulation — minimum thickness 1" top and sides
- Plastic dip tube—Cannot rust or corrode
- Modernistic steel door and frame
- Pressed steel legs—streamlined design
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Beautiful white baked enamel finish with gray trim

SIZING CHART

MINIMUM Recommendations for Normal Average Hot Water Requirements

Number of Bathrooms	Number of Bedrooms	Minimum Storage Capacity Reduced
1	1 or 2	20 gal.
1	2 or 3	30 gal.
2	2 or 3	40 gal.
3	3 or 4	50 gal.

With Automatic Clothes or Dishwasher, use larger size.

MODEL No. for LPG Heaters Add Suffix Letter "B"		X-20	X-30	XS-30 Shorty	X-40	XL-40 Longy	X-50
A	Greatest Depth	17½"	19½"	21½"	23½"	21½"	25½"
B	Diameter of Jacket	14"	16"	18"	20"	18"	22"
C	Height of Gas Valve	20"	20"	20"	20"	20"	20"
D	Over-all Height of Heater	62"	67"	56"	58½"	68½"	59½"
E	Size of gas connection	½"	½"	½"	½"	½"	½"
F	Diameter of Flue Connection	3"	3"	3"	3"	3"	3"
G	Top of Heater to top of Hood	6½"	6½"	6½"	6½"	6½"	6½"
Size of Water Connection		¾"	¾"	¾"	¾"	¾"	¾"
Tank Capacity in gallons		20	30	30	40	40	50
Recovery Capacity Gals. per hour at 100° Rise	Nat. Gas	16.8	25.2	25.2	25.2	25.2	25.2
	Mfd. Gas	16.8	25.2	25.2	25.2	25.2	25.2
	L.P. Gas	16.8	25.2	25.2	25.2	25.2	25.2
Btu Input — Per hour	Nat. Gas	20,000	30,000	30,000	30,000	30,000	30,000
	Mfd. Gas	20,000	30,000	30,000	30,000	30,000	30,000
	L.P. Gas	20,000	30,000	30,000	30,000	30,000	30,000
Approx. Crated Weight		124	150	150	194	194	286

Add Suffix to Model Number to Indicate Control Desired

"K" — Kilroy Hotstream — City gases only

The following are 100% shutoff controls for LP or City gases.

"G1" — Unitrol 110

"G4" — Unitrol 400

"G2" — Unitrol 200

"G5" — General G5G

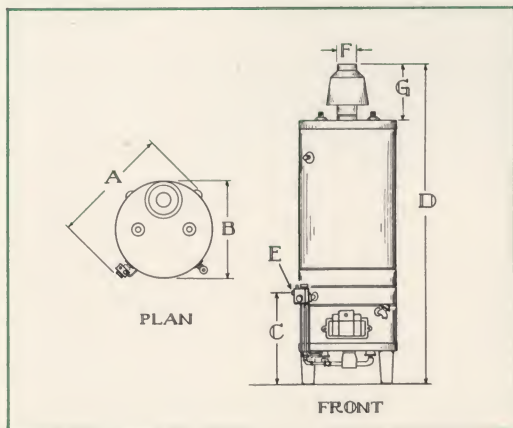
"V" — Minneapolis Honeywell V5124

"V6" — Minneapolis Honeywell V5126

"TP" Safetystat, high-temperature gas shutoff, or Diaphragm pressure-and-temperature relief valve, are recommended for all heater installations.



D-80-R2



1-YEAR COMMERCIAL WARRANTY

No Excise Tax

Storage tank and all parts warranted for one year.

TEN-YEAR DOMESTIC WARRANTY

Storage Tank warranted for ten years. Last eight year period on an annual pro-rated basis. One year warranty on all other parts.



HOTSTREAM

**LARGE
VOLUME**

DIXIE — MODEL "R-2"

GAS AUTOMATIC STORAGE WATER HEATER

(50, 75, 80 AND 100 GALLON CAPACITY)

- Accessibility of Controls
- Galvanized Copper Bearing Steel Storage Tank with three flues; 355 Lb. Test, 150 Lbs. Working Pressure
- Multiple-Flue Construction
- Combination Thermocouple Automatic Pilot and Thermostat

Designed to operate on all gases including liquefied petroleum gas

Automatically shuts off the gas supply to main burner and pilot in event of pilot flame failure

On models D-80-R2 and D-100-R2 for manufactured gas we furnish $\frac{3}{8}$ " Snap action thermostat with direct control $\frac{3}{4}$ " diaphragm cut off valve at additional charge.

- Blue Flame, raised, drilled port burner
- Exclusive Bell Air - Mixer - Shutter on D-50-R2 and D-75-R2
- Combustion Separator and Evaporation Plate, Aluminized
- Floor Shield, secondary air deflector and pre-heater
- Specially designed steel baffle

- Fiberglas insulation — minimum thickness 2"
- Plastic dip tube—Cannot rust or corrode
- Modernistic steel door and frame
- Four pressed steel legs — durable design — bolted to tank support.
- Two inch clean out with drain valve.
- Diaphragm-type temperature and pressure relief valve recommended
- Pilot filter for all gases
- Outer steel drum, painted inside and out
- Beautiful white baked enamel finish with green and stainless steel trim

These heaters are especially large multi-flue units, which are particularly adapted for use in Apartments, Restaurants, Hotels, Garages and other commercial purposes.

To prevent a build up of high temperatures caused by numerous short draws, we recommend the use of a second thermostat, installed near the top of the heater on models D-80-R2 and D-100-R2.

MODEL No. for LPG Heaters Add Suffix Letter "B"		D-50-R2	D-75-R2	D-80-R2	D-100-R2
A	Greatest Depth	28"	31"	31"	33"
B	Diameter of Jacket	24"	26"	26"	28"
C	Height to Gas Connection*	20"	25"	25"	25"
D	Over-all Height of Heater	64"	78½"	84¾"	86¾"
E	Size of Gas Connection	½"	½"	½"	½"
F	Diameter of Flue Connection	4"	4"	5"	5"
G	Top of Heater to Top of Hood	10"	10½"	12"	12"
Size of Water Connection		1"	1"	1"	1"
Tank Capacity in Gallons		50	75	80	100
Recovery Capacity Gals. per hour at 100° Temperature Rise	Nat. Gas	37.8	37.8	67.2	67.2
	Mfd. Gas	37.8	37.8	67.2	67.2
	Liq. Pet. Gas	25.2	25.2	50.4	50.4
Btu Input — Per Hour	Nat. Gas	45,000	45,000	80,000	80,000
	Mfd. Gas	45,000	45,000	80,000	80,000
	Liq. Pet. Gas	30,000	30,000	60,000	60,000
Approx. Shipping Weight		402	618	641	708

*With Diaphragm Valve — 4½"

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



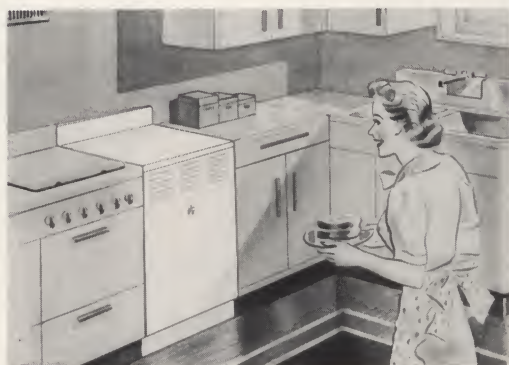
HOTSTREAM

TABLETOP MODEL "TT"

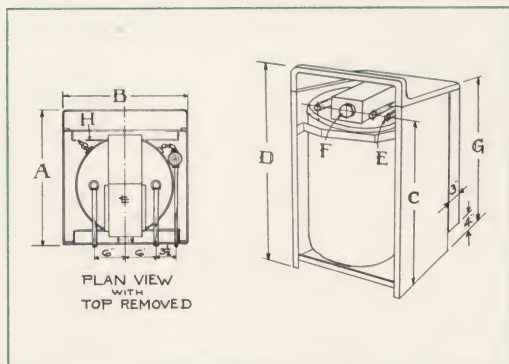
GAS AUTOMATIC STORAGE WATER HEATER



TT-30



FITS FLUSH TO WALL



TEN-YEAR WARRANTY

Storage tank warranted for ten years. Last eight-year period on an annual pro-rated basis. One-year warranty on all other parts.

- Accessibility of Controls
- Galvanized Steel Storage Tank and Glass Lined Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Off Center flue for longer flame travel
- Unitrol 110 Combination Thermocouple Automatic Pilot and Thermostat
- Designed to operate on all gases including liquefied petroleum gases
- Automatically shuts off the gas supply to main burner and pilot in event of pilot flame failure
- Blue Flame, raised, drilled port burner
- Floor Shield, secondary air deflector and pre-heater
- Internal draft diverter permits installations flush to wall and cabinets
- Specially designed steel baffle
- Fiberglass insulation
- Dip tube — Special design
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Gas Pressure Regulator (except on LP-Gas Models)
- Cabinet designed for striking beauty and utility — table high. Completely encloses the entire unit. It is styled to match other appliances and will fit perfectly into the kitchen of any home. All connections are made at the rear. Burner and controls are readily accessible through the door panel. Drain valve is in front. The sides and base are made of a heavy special cabinet steel. The top is porcelain enameled (just like a regular kitchen table) and is easily cleaned. Toe-space is provided. Both door and top are lift-off type.
- Beautiful white baked enamel finish Black base

MODEL No. for LPG Heaters Add Suffix Letter "B"		TT-30-GL Glass Lined	TT-30 Galvanized
A	Greatest Depth	25"	25"
B	Greatest Width	24"	24"
C	Height to Gas and Water Connection	34"	34"
D	Overall Height of Heater to top of splash board	40"	40"
E	Size of Gas Connection	½"	½"
F	Diameter of Flue Connection	3"	3"
G	Height to Table Top	36"	36"
H	Height of Relief Valve Connection	22"	22"
Size of Water Connection		¾"	¾"
Tank Capacity in Gallons		30	30
Recovery Capacity Gals. per hour at 100° Temperature Rise	Nat. Gas	25.2	25.2
	Mfd. Gas	25.2	25.2
	Liq. Pet. Gas	25.2	25.2
Btu Input — per hour	Nat. Gas	30,000	30,000
	Mfd. Gas	30,000	30,000
	Liq. Pet. Gas	30,000	30,000
Approx. Crated Weight, lbs.		260	230

"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installation.



KK-30



HOTSTREAM

MODEL "KK" (Kitchen Kabinet)

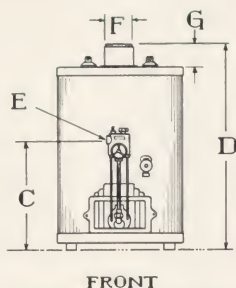
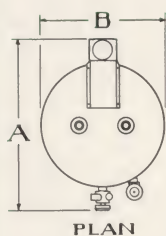
GAS AUTOMATIC STORAGE WATER HEATER

(CAN ALSO BE INSTALLED IN ATTIC)

The Kitchen Kabinet Model "KK" automatic storage water heater is designed for homes and apartments with limited space. It is usually placed in a small, properly ventilated compartment under the kitchen sink or hide-away place.

- Accessibility of Controls
- Galvanized Steel Storage Tank: 300 Lb. Test, 127½ Lbs. Working Pressure
- Internal-Flue Construction
- Unitrol 110 Combination Thermocouple Automatic Pilot and Thermostat
 - Designed to operate on all gases including liquefied petroleum gases
 - Automatically shuts off the gas supply to main burner and pilot in event of pilot flame failure
- Blue Flame, raised, drilled port burner

- Exclusive Bell Air-Mixer-Shutter
- Floor Shield and secondary air deflector and pre-heater
- Horizontal draft diverter
- Specially designed steel baffle
- Fiberglas insulation — minimum thickness 1" top and sides
- Dip tube — Special design
- Modernistic steel door and frame
- Drain valve with threaded hose connection
- Pilot filter for all gases
- Outer steel drum, painted inside and out
- Beautiful white baked enamel finish with green trim



MODEL No. for LPG Heaters Add Suffix Letter "B"		KK-20	KK-30
A Greater Depth		28"	32"
B Diameter of Jacket		20"	24"
C Height of Gas Valve		14-7/16"	14-7/16"
D Overall Height of Heater		34"	34"
E Size of Gas Connection		½"	½"
F Diameter of Flue Connection		3"	3"
G Top of Heater to Top of Flue		4"	4"
Size of Water Connection		¾"	¾"
Tank Capacity in Gallons		18.7	28
Recovery Capacity Gals. per hour at 100° Temperature Rise	Nat. Gas	16.8	21.0
	Mfd. Gas	16.8	21.0
	Liq. Pet. Gas	16.8	21.0
Btu Input — per hour	All Gases	20,000	25,000
Approx. Crated Weight — Lbs.		183	232

FIVE-YEAR WARRANTY

Storage tank warranted for five years. Last four-year period on an annual pro-rated basis. One-year warranty on all other parts.

"TP" Safetystat, high-temperature gas shutoff, or diaphragm pressure-and-temperature relief valve, are recommended for all heater installation.



225-PR

ONE-YEAR WARRANTY

Storage tank and all other parts warranted for one year.



4-in-1 Booster Heaters

**AUTOMATIC STORAGE — INSTANTANEOUS
AUXILIARY STORAGE — BOOSTER**

The Hotstream 4-in-1 Booster is not just another water heater. This mighty giant is a glutton for work and masters the more difficult task of heating large volumes of water quickly for domestic, commercial and industrial purposes. Proper, intensive engineering and design are responsible for the splendid results obtained by this heater.

This unit is adaptable to all phases of work for heating water. Its scope is practically unlimited. It serves a four-fold purpose . . . 1st as an automatic storage heater for domestic purposes.

The No. 90-224, with a storage capacity of 90 gallons, is generally used for this purpose . . . 2nd as an instantaneous heater for domestic and commercial purposes . . . 3rd as a quick recovery unit (hooked up single or multiple) to an auxiliary storage tank for immediate large

volume requirements . . . 4th as a Booster . . . It is often necessary to install a Booster to raise the temperature of the water for some specific use over and above the normal requirements of the existing hot water system, such as for a dishwasher of a restaurant. The Hotstream Booster has solved the problem for many building managers when they were faced with the problem of supplying hot water to new facilities added to their property, such as restaurants, light manufacturing plants, beauty parlors, etc.

The following specifications furnish proof that the customary high standard of Hotstream quality has been excelled in the building of the 4-in-1 Booster. You can unqualifiedly guarantee its performance with the positive assurance it will render satisfactory service for the purpose intended.

Model No.		75-140PR 275-140LPG	90-224PR 290-224LPG	100-PR 300-LPG	150-PR 350-LPG	225-PR 425-LPG	250-PR 450-LPG
U.S. STANDARD TANK GAUGES	Top	2	1	6	7	6	6
	Bottom	2	1	0	3	0	0
	Shell	11	10	9	9	9	9
	Flues	9	9	9	9	9	9
ASME TANK GAUGES	Top		0		0		0
	Bottom		0		0		0
	Shell		2		2		2
	Flues		7		7		7

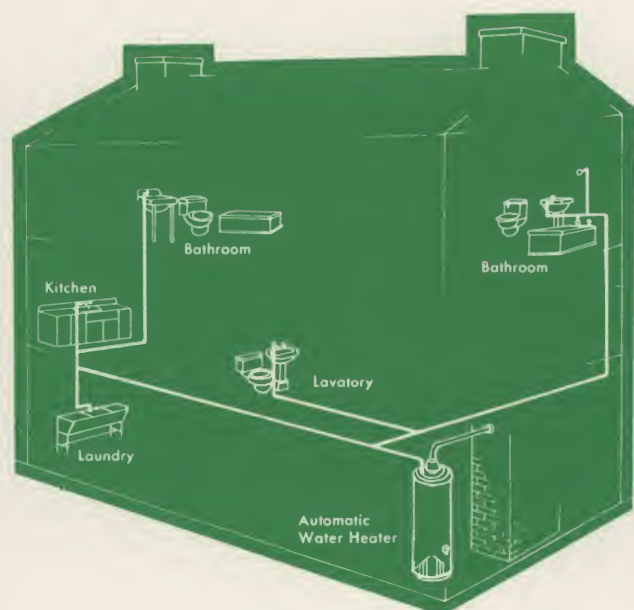
- **Accessibility of Controls**
- **Galvanized Copper Bearing Steel Storage Tank:** 355 Lb. Test, 150 Lbs. Working Pressure. When specified ASME tanks can be furnished
- **Multiple-Flue Construction** — Equipped with three large pipe tappings to insure rapid and free circulation of water. The heating surface of these tanks is immense in comparison to the input. The large percentage of baffled heating surface explains the amazingly high efficiency obtained by these units.
- **Controls For City Gas Models** — Snap-action thermostat, all brass construction. Equipped with customer temperature indicator adjustment lever. Designed simple and trouble-free. Thermocouple electro-magnetic automatic pilot. Designed to operate on city gases only. Shuts off gas supply to main burners in event of pilot flame failure. Diaphragm valve — "Direct Control" positive-acting, silent operation valve which controls the flow of gas to the main burners, accurately and quickly. Gas pressure regulator prevents fluctuations of gas pressure from affecting heater operation.
- **Controls For LP Gas Models** — Robertshaw Unitrol 400 combination thermocouple automatic pilot and thermostat. Shuts off gas supply to main burner and pilot in event of pilot flame failure.

Thermostat is equipped with a dial-type customer temperature adjustment. Main gas valve "A" and pilot valve "B" are integral parts.

- **Blue Flame, raised, drilled port burners** — entire burner assembly can be easily removed by merely removing three bolts.
- **Vertical draft hood.** Horizontal furnished when specified.
- **Specially designed steel baffles.**
- **Fiberglass insulation** — minimum thickness 2" top and sides.
- **Plastic dip tube** furnished only when specified — no extra charge.
- **Cleanout.** 3½ x 4½ inch oval opening for removing scale and sediment
- **Door and frame** — steel construction, large enough to permit easy access to combustion chamber.
- **Legs** — four heavy pressed steel legs bolted to tank.
- **Drain valve** with threaded hose connection
- **We recommend Diaphragm-type temperature and pressure relief valve.** No. A-44-XL-¾".
- **Pilot filter** for all gases at no extra charge.
- **Outer steel drum,** painted inside and out.
- **Beautiful white baked enamel finish** with green and stainless steel trim.

4-in-1 Boosters For Residential Hot Water Service

ILLUSTRATING A TYPICAL HOOK-UP FOR LARGE RESIDENCES



REGARDING RESIDENTIAL INSTALLATIONS

Hotstream 4-in-1 Boosters are suited for residential automatic hot water service where large quantities of hot water are required instantly. By having a storage capacity, plus a quick recovery, together with an extremely high efficiency places this heater in a classification superior to the instantaneous types. In fact, for a momentary heavy load, when all hot water fixtures are open at the same time, the Booster heater will permit all faucets to run hot.

Hotstream recommends these Boosters for large volume hot water requirements, based on the above statements, plus the following reasons . . . First — Simplicity of construction;

the Booster being patterned after the Automatic Storage Heater. Second — The storage capacity straightens out the temperature line, making a constant, steady flow at even temperatures available. Third — Simplicity of construction lessens service problems and cuts down repair bills.

DESCRIPTION OF HOTSTREAM BOOSTER OPERATION

Regardless of how the Booster heater is put to work, the following cycle of operation is the same. When the snap-action thermostat is satisfied (closed), gas from the main line entering the diaphragm valve feeds through a small orifice to the chamber above the diaphragm. This forces the diaphragm valve down to close tightly against its seat.

When the thermostat is unsatisfied, it opens causing the gas pressure above the diaphragm to be released through the thermostat to the escapement orifice, which is assembled onto one of the main burners. This allows the diaphragm to be raised off the seat as a result of the pressure difference, permitting the gas to flow to the main burner. A continuous flow of gas from the small diaphragm orifice will flow through the thermostat and into the escapement orifice where it mixes with the main gas flow to burn efficiently on the main burner.

A Thermocouple Automatic Pilot is located in the control line where it operates to close the main gas supply in the event of pilot failure. When the Automatic Pilot valve opens or closes, the diaphragm valve operates as described above for thermostats.

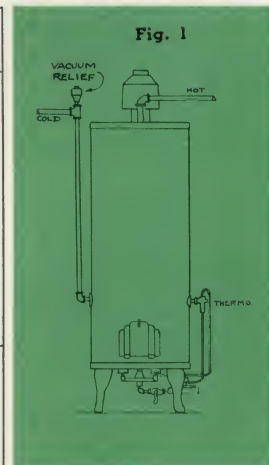
All LPG Models are assembled without the diaphragm valve, using a Unitrol thermostat to control the gas flow.

HOW TO ORDER BOOSTER HEATERS FOR VARIOUS TYPES OF SERVICE

In addition to specifying the Model number and the type of gas, it is also necessary to order the Booster heater with the thermostat assembled in the proper position for the type of service desired. See figure 1 to 6.

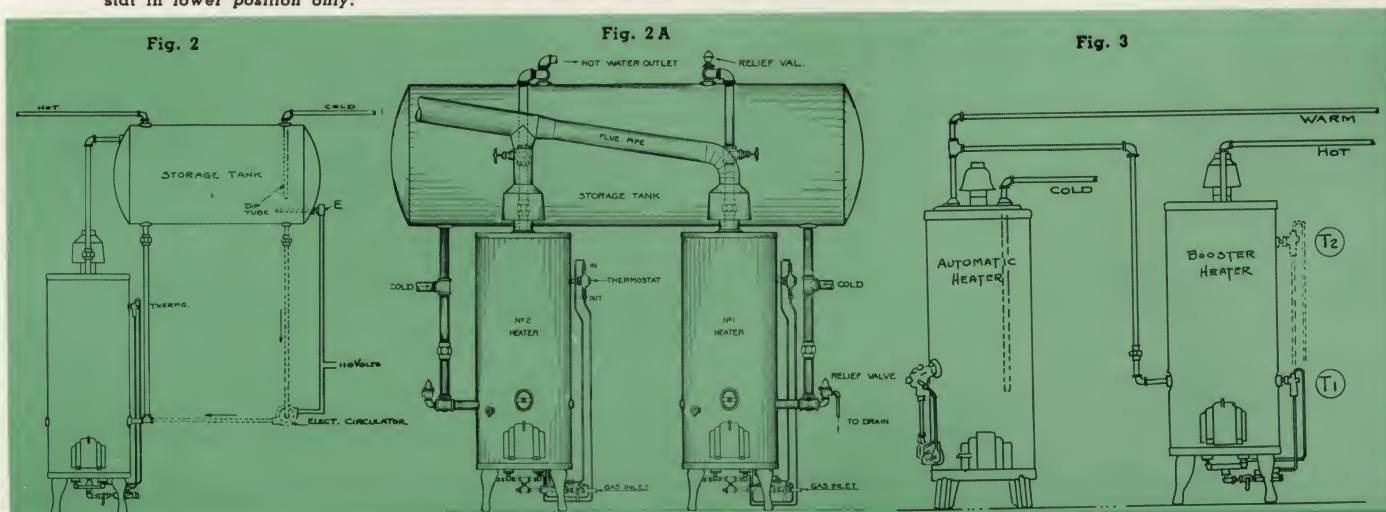
TYPE OF SERVICE	DESCRIPTION	THERMOSTAT POSITION*
Automatic Storage Heater (Figure 1)	The Booster is a small storage capacity unit with extremely rapid recovery. The entire storage capacity can be utilized with the thermostat in lower position so that it will open quickly when cold water enters the heater as hot water is drawn. The 75-140-PR and 90-224-PR have larger water storage capacities.	
Instantaneous (Figure 1)	Any of the various models can be ordered for this service. Thermostat must be in a position to open quickly when cold water enters heater.	Lower

(Continued Next Page)



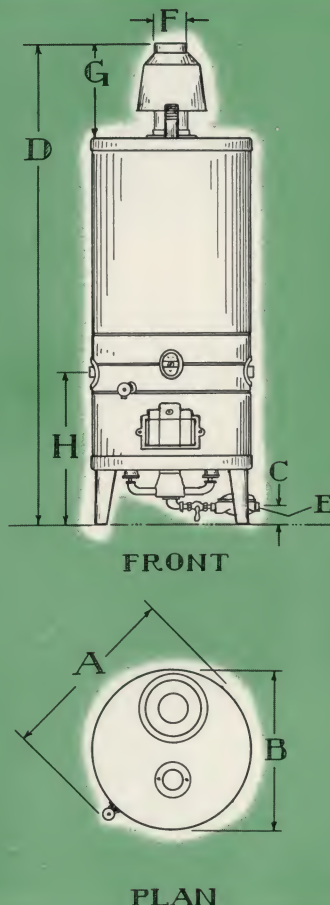
TYPE OF SERVICE	DESCRIPTION	THERMOSTAT POSITION*
Auxiliary Storage Heater (Figure 2 and 2A) Dotted lines indicate piping when electric circulator is used.	Thermostat must deliver water at constant temperature into the auxiliary storage tank. In the upper position, the thermostat serves as a limit control also, and will prevent excessive temperatures. A circulator pump can be installed to maintain water at predetermined temperatures, where there is a long distance between the heater and auxiliary storage tank, where there is restricted circulation or where there are frequent short draws, or if the storage tank is not higher than the heater.	Upper With circulator use immersion type electric thermostat as shown in the accessories section.
Booster Heater Operation (Figures 3 and 6)	Thermostat must be in a position to respond quickly when water is drawn. The rapid recovery rate will quickly boost the water to desired high temperature. Figures 3 and 6 can also be considered as "dual temperature" systems, the Booster heater providing the hot water for special equipment such as dishwashers, laundry, etc. To prevent overheating usually caused by short draws such as on dishwashers, use a second thermostat installed in upper position, connected in series with lower thermostat and set to close at 200°. See figure 6.	Lower For extra thermostat in upper position — See figure 6.
Dual Temperature Heater — With Auxiliary Storage Tank (Not Shown)	Tempering Valve must be ordered also to be installed at the hot water outlet of the auxiliary storage tank. When water is required at the stored temperature, it is drawn directly from the auxiliary tank without going through the tempering valve. When water at any lower temperature than the stored water temperature is desired, it is drawn through the tempering valve. This valve themostatically mixes cold water with the hot water as it is drawn, delivering water at a pre-determined temperature.	Upper Tempering Valve described in accessories section of our Catalog.
Dual Temperature Heater — Without Auxiliary Storage Tank (Figure 5)	Tempering Valve must be ordered also to be installed at the hot water outlet of the Booster heater. This valve themostatically controls temperature of water delivered. When water is required at the stored temperature, it is drawn directly from the Booster heater without going through the tempering valve. When water at any lower temperature than the stored water is desired, it is drawn through the tempering valve.	Lower Tempering Valve described in accessories section of our Catalog.
Auxiliary storage heater with hi-limit feature — Fig. 4.	Where an auxiliary tank is used in conjunction with a booster heater, it is recommended that a second thermostat be installed in the auxiliary tank (Fig. 4), which will act as a high limit control if the water temperature should exceed the normal heater setting. A circulating pump can also be installed to maintain water at a predetermined temperature.	

*NOTE: If the thermostat position is not specified, the No. 100-PR Booster will be supplied with the thermostat in the lower position. All other models are supplied with the thermostat in the upper tapping unless specified except L.P.G. Models, which can be supplied with thermostat in lower position only.



Complete Table of Roughing-in Dimensions, Inputs, Ratings, Recovery

Capacities, Outputs, List Prices, Etc.



IMPORTANT: All ratings and recovery capacities printed in color refer only to Booster Models for liquefied petroleum gas (LPG Models). All ratings and recovery capacities printed in black refer to Booster Models for city gases. (PR Models).

Use dual thermostat on any Booster when not connected to a storage tank, setting the top thermostat at the maximum allowable temperature and the lower thermostat at the operating temperature as shown in figure 6 below.

MODEL NO.	Model No. 75-140-PR 275-140-LPG	Model No. 90-224-PR 290-224-LPG	Model No. 100-PR 300-LPG	Model No. 150-PR 350-LPG	Model No. 225-PR 425-LPG	Model No. 250-PR 450-LPG
A Greatest Depth	31"	33"	29"	25"	29"	29"
B Diameter of Jacket	26"	28"	24"	20"	24"	24"
C Height to Gas Valve	2 1/2"	2 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
D Over-all Height of Heater	85"	88"	72"	75 1/4"	74"	76 1/2"
E Size of Gas Connection—City Gases	3/4"	1"	3/4"	3/4"	1"	1"
E Size of Gas Connection—LP Gas	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
F Diameter of Flue Connection	5"	7"	5"	5"	6"	7"
G Top of Heater to top of Hood	11 3/4"	15"	11 3/4"	14 3/4"	15"	17"
H Floor to Cold Inlet Connection	24 1/2"	24 1/2"	27 1/4"	27 1/4"	27 1/4"	27 1/4"
Size of Water Connection	2"	2"	2"	2"	2"	2"
Tank Capacity in Gallons	75	90	40	21	34	34
Number of Flues	4	4	8	12	18	18
Number and type of Burners	4-#2108	4-#2119	2-#2119	4-#2108	4-#2119	7-#2108
NATURAL GAS RATINGS —						
Recovery Gals. per Hr. 60° Temp. Rise	138.5	189.0	125.8	210.0	251.8	322.0
Recovery Gals. per Hr. 80° Temp. Rise	103.9	141.8	94.4	157.5	188.8	241.5
Recovery Gals. per Hr. 100° Temp. Rise	83.2	113.3	75.6	126.0	151.3	193.3
Input — Btu per hour	99,000	135,000	90,000	150,000	180,000	230,000
MANUFACTURED GAS RATINGS —						
Recovery Gals. per Hr. 60° Temp. Rise	138.5	189.0	125.8	210.0	251.8	322.0
Recovery Gals. per Hr. 80° Temp. Rise	103.9	141.8	94.4	157.5	188.8	241.5
Recovery Gals. per Hr. 100° Temp. Rise	83.2	113.3	75.6	126.0	151.3	193.3
Input — Btu per hour	99,000	135,000	90,000	150,000	180,000	230,000
LIQ. PETROLEUM GAS RATINGS —						
Recovery Gals. per Hr. 60° Temp. Rise	125.8	168.0	83.9	140.0	168.0	210.0
Recovery Gals. per Hr. 80° Temp. Rise	94.5	126.0	63.0	105.0	126.0	157.5
Recovery Gals. per Hr. 100° Temp. Rise	75.6	100.8	50.4	84.0	100.8	126.0
Input — Btu per hour	90,000	120,000	60,000	100,000	120,000	150,000
Approximate Crated Weight — lbs.	604	690	458	424	561	563

Included with heater, draft hood and pressure regulator.

We recommend a 3/4" No. A-44-XL temperature and pressure automatic self-seating relief valve with immersion element and lever.

Second thermostat for City Gas only add to list \$12.00. Horizontal draft hoods are available for low ceiling installations.

Fig. 4

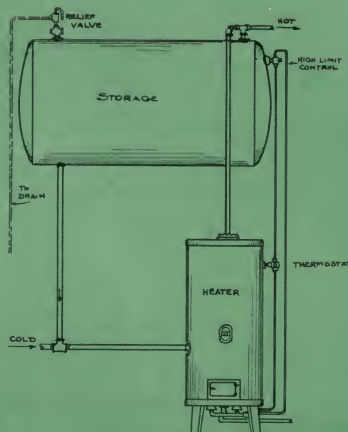


Fig. 5

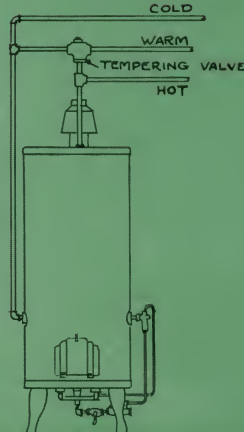
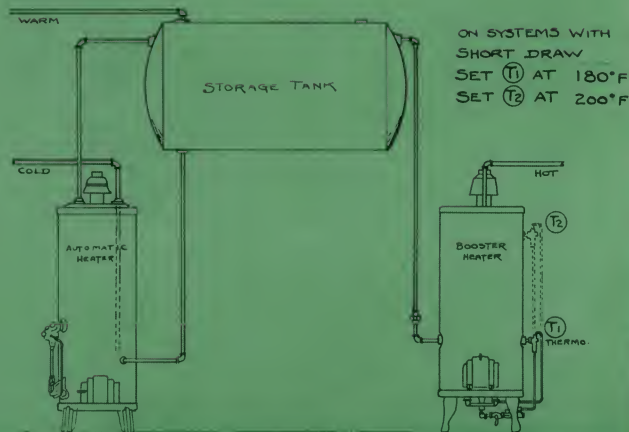


Fig. 6





HOTSTREAM

MODEL "HB"

ASME HOUSE HEATING BOILERS



HB-150

Model "HB" ASME Heating Boilers are well suited and ideally adapted for heating homes, apartments, small offices, garages, greenhouses, etc. They insure clean uniform warmth and comfort, occupy less floor space, are better looking and cost less than other heating boilers. Many of these boilers are used for radiant and panel heating jobs.

These heaters may be used in single or multiple units, depending on the radiation required. They may be used as an auxiliary to an installed hot water

heating plant. Can also be used with either an open or a closed system with expansion tank or reducing valve.

Although the illustration on the next page shows a "Single Main Hot Water Forced Circulation Heating System," it should be understood that these boilers can be used with any existing hot water system, whether it be a forced or gravity system. If the gravity system is used then controls "B" (Flow Control Valve) and "E" (Water Circulator) need not be used.

The following specifications show the quality features available in this unit:

- Accessibility of Controls
- ASME Galvanized Steel Boiler; 180 Lbs. Working Pressure. Multiple flue construction. Equipped with three large pipe tapings to insure rapid and free circulation of water. The heating surface of these tanks is immense in comparison to the input. The large percentage of baffled heating surface explains the amazingly high efficiency obtained by these units.
- Controls For City Gas Models — Snap-action Hi-Limit, all brass construction. Equipped with customer temperature indicator adjustment lever. Design is simple and trouble-free. Thermocouple electro-magnetic automatic pilot. Designed to operate on city gases only. Shuts off gas supply to main burners in event of pilot flame failure. Diaphragm valve — "Direct Control" positive-acting, silent operation valve which controls the flow of gas to the main burners, accurately and quickly. Low pressure regulator to prevent fluctuations of gas pressure from affecting heater operation.
- Controls For LP Gas Models — Unitrol 400 Combination thermocouple automatic pilot and thermostat. Shuts off gas supply to main burner and pilot in event of pilot flame failure. Main gas valve "A" and pilot valve "B" are integral parts.
- Blue Flame, raised drilled port burners — entire burner can be easily removed by merely removing three bolts.
- Approved vertical draft hood.
- Specially designed steel baffles.
- Fiberglass insulation — minimum thickness 2" top and sides.
- Two — 2" cleanout openings for removing scale and sediment.
- Door and frame — steel construction, large enough to permit easy access to combustion chamber.
- Legs — four heavy pressed steel legs bolted to tank.
- Drain valve with threaded hose connection.
- Diaphragm-type pressure relief valve. No. 274 — 3/4".
- Pressure-altitude temperature gage.
- Pilot filter for all gases.
- Magnesium Rod with iron wire core, extra equipment on all models.
- Outer steel drum, painted inside and out.
- Beautiful white baked enamel finish with green and stainless steel trim.

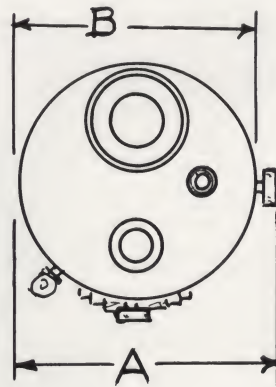
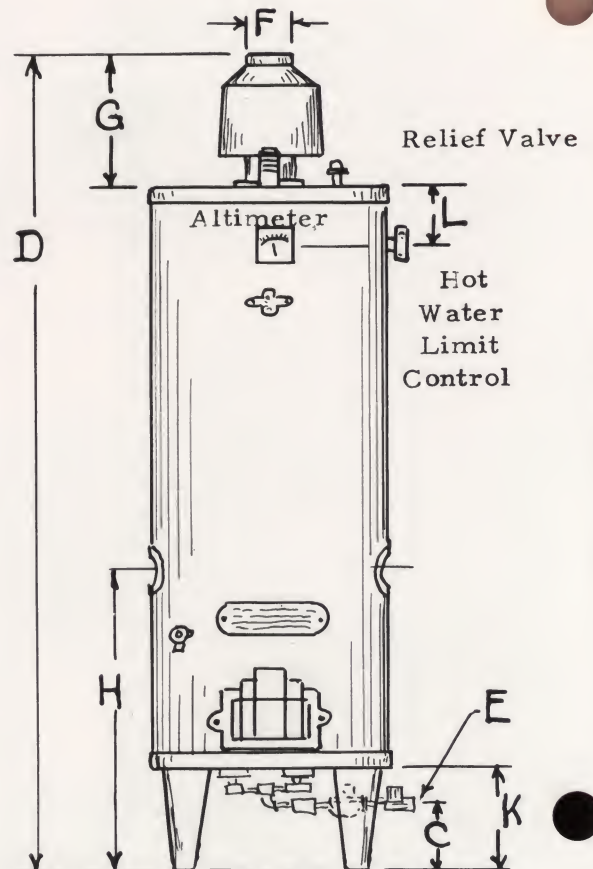
ONE-YEAR WARRANTY

Storage tank and all other parts warranted for one year.

ROUGHING-IN DIMENSIONS

Inputs, Outputs, Radiation, Etc. for Hotstream Model "HB" Heating Boilers

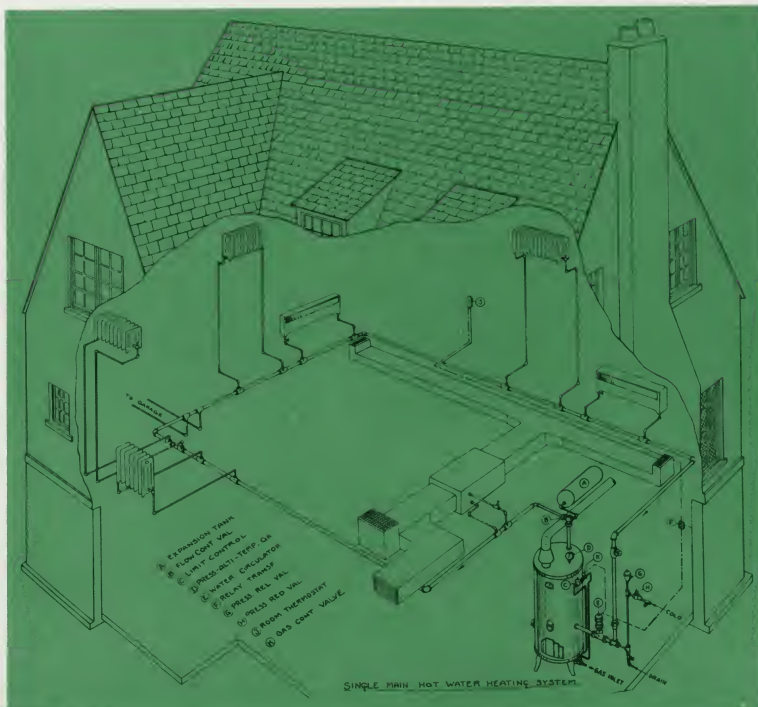
MODEL NO.	HB-150	HB-250
A Greatest Depth	25"	29"
B Diameter of Jacket	20"	24"
C Height to Gas Valve	3½"	3½"
D Over-all Height of Heater	75¼"	76½"
E Size of Gas Connection — City Gases	¾"	1"
F Diameter of Flue Connection	5"	7"
G Top of Heater to top of Hood	14¾"	17"
H Floor to Inlet Water Connection	27¼"	27¼"
K Leg Height	8¾"	8¾"
L Top to Limit Control	8¾"	8¾"
Size of Water Connection	2"	2"
Tank Capacity in Gallons	21	34
Number of Flues	12	18
Number and type of Burners	4-No. 2108	7-No. 2108
NATURAL GAS RATINGS —		
Input — Btu per hour	150,000	230,000
Output — Btu per hour	120,000	184,000
Total Sq. Ft. Hot Water Radiation	800	1,250
Standing Sq. Ft. Hot Water Radiation	560	875
MANUFACTURED GAS RATINGS —		
Input — Btu per hour	150,000	230,000
Output — Btu per hour	120,000	184,000
Total Sq. Ft. Hot Water Radiation	800	1,250
Standing Sq. Ft. Hot Water Radiation	560	875
LIQUEFIED PETROLEUM GAS RATINGS		
Input — Btu per hour	100,000	150,000
Output — Btu per hour	80,000	120,000
Total Sq. Ft. Hot Water Radiation	533	800
Standing Sq. Ft. Hot Water Radiation	373	560
Approximate Crated Weight — lbs.	550	670



NOTE: Standing hot water radiation is figured at 30% of total rating due to piping loss. Figures are based on systems having mains and returns insulated.

A SINGLE MAIN HOT WATER FORCED CIRCULATION HEATING SYSTEM

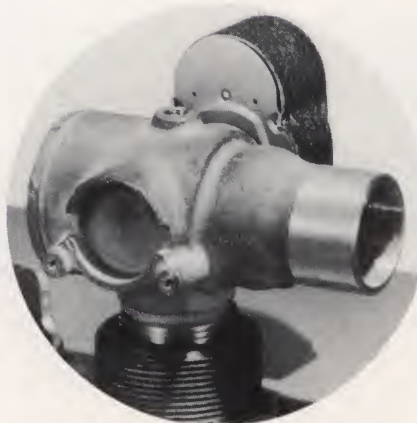
ACCESSORIES: The Model "HB" heating boilers are already equipped with a limit control (thermostat) and a gas pressure regulator. Room thermostat, electric circulator pumps and expansion tanks can be furnished when specified, at additional cost. Relays are also available to be used for supplying line voltage to electric circulator pump and low voltage for control circuit. See heating accessories section.





HOTSTREAM MODEL H-193

GAS - FIRED HOT WATER HEATING BOILER



"LIMITEE"

Use only with 1/2" By Pass between outlet and return (see cut page 45.)

AUTOMATIC "LIMITEE"— For use with Slab Radiant Heating. This control is built with an internal thermostat controlling the minimum water temperature. It can be used with an attached surface type high temperature limit control which controls the maximum water temperature. An optional immersion type high temperature limit control can be used where local codes require it in place of a surface type control. The "Limitee" is supplied as standard with a 1 1/4" sweat joint connection inside or with a 1 1/4" male pipe thread outside. It is not required on gravity circulation installations.

Adaptable for all types of gravity or forced circulation residential installations including:

(1) One-Pipe Systems, (2) Two-Pipe Systems, (3) Convactor Systems, (4) Panel and Radiant Systems.

Models are available for all city gases and LP Gas.

CONSTRUCTION AND OPERATION FEATURES

CABINET— Completely encloses the entire unit. Smartly styled, sturdy, heavy gauge welded steel construction. Fabricated of special cabinet steel.

FINISH— Easy to clean, high lustre, gray hammeroid finish, is electrostatically sprayed and infra-red baked for lasting beauty. Harmoniously blends with furnishings in recreation or hobby room. Also available in dazzling white, high lustre baked enamel finish to match other "white" appliances at no extra charge, when specified.

ACCESS DOOR— Large, flush fitting. Permits full access to controls and combustion unit.

VENTILATED CONTROL COMPARTMENT— Controls stay cool for maximum life and operating efficiency.

INSULATION— Surrounds cabinet on all inner sides. Heavy, metal shielded, asbestos air-cell insulation prevents excessive heat loss and keeps cabinet "comfortable to touch."

COMBUSTION CHAMBER AND ACCESS DOOR— Made of durable cast iron. Aluminized finish. Removable Door permits full access to burners, pilot burner, and heating element.

BLUE FLAME BURNER— Precision cast iron burner of lift-off type with raised drilled ports, aluminized finish. Spaced proper distance from heating element to insure maximum efficiency. Quiet operation. Twin air mixers are designed to provide economical burner operation.

AUTOMATIC PILOT— City gas — Thermocouple type, designed to shut off the gas to the main burner in the event the pilot flame is extinguished.

LPG — Thermocouple type, designed to completely shut off all gas to pilot and main burner in the event the pilot flame is extinguished.

GAS PRESSURE REGULATOR— Prevents fluctuations in gas pressure from affecting burner operation. Standard equipment on city gas models only.

HEATING ELEMENT— Consists of three, nested spiral coils made of heavy one inch O.D. seamless copper tubing. (No. 18 Stubbs Gage). Cast brass manifold firmly joined to top and bottom of coils by phosphorous-copper brazing process. Scientific baffling together with the inherent rapid heat transfer qualities of copper insures faster heat absorption and increased overall efficiency. Factory pressure tested.

Its compact size and features listed below make the model H-193 the "perfect choice" for smaller homes up to six rooms or as an individual heating boiler for each apartment in multi-family dwellings and for zoned heating systems in larger homes. In fact, this heater can be used wherever up to 346 sq. ft. of radiation is required.

DRAFT HOOD— Approved type insures proper combustion and prevents down drafts from affecting burner operation.

AUTOMATIC SOLENOID GAS CONTROL VALVE— Electrically actuated by room thermostat or aquastat to operate burner automatically as required. Full size gas passageway insures rated gas flow. Quiet magnetic-type valve. In the event of current failure, gas supply is automatically closed.

TRANSFORMER— Precision built to insure long life and quiet operation. Reduces the line voltage to low voltage for control circuit.

PILOT GAS FILTER— Supplied on all units for use with all gases at no extra charge.

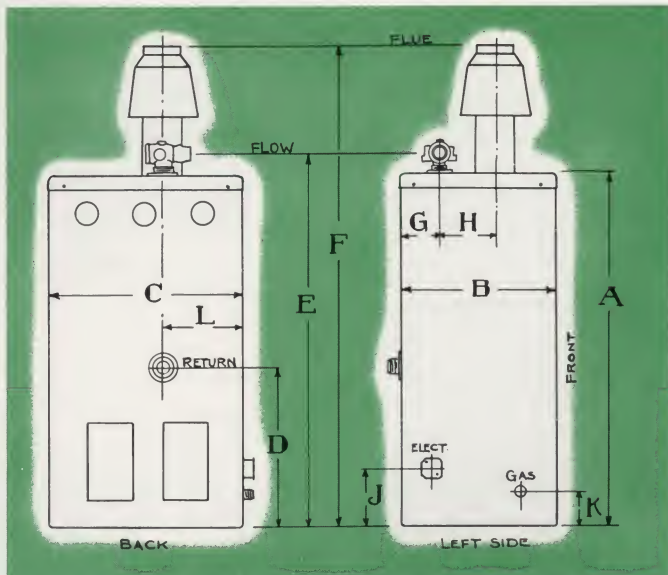
MANUAL SHUT-OFF VALVE— Separate valve for both pilot and main burner when equipped for use with City Gas. For LPG valves are integral part of automatic pilot valve.

ADDITIONAL CONTROLS— Room thermostat, pressure-altitude-temperature gage, and electric circulator pump can be supplied when specified, at additional cost. Relays are also available to be used for supplying line voltage to electric circulator pump and low voltage for control circuit.

DIELECTRIC UNIONS— Flange-Type insulating union fitting recommended for installation wherever ferrous and non-ferrous metals are joined. It will resist the damaging effect of galvanic action where materials other than copper are used in the heating system.

INSTALLATION— The model H-193 is shipped completely assembled, and ready to install as illustrated. No "on-the-job" assembly time is necessary.

OPERATION— The model H-193 is a completely automatic heating boiler that will respond to the controls as required. Its low water capacity makes this unit particularly adaptable to convactor and panel radiant heating systems. Controls should be installed so that when the room thermostat calls for heat, it immediately puts into operation the circulating pump and ignites the main burner. If the water in the system exceeds the maximum temperature setting, the high temperature control shuts off the burner but the circulating pump continues to operate until the room thermostat is satisfied, then shutting off both the main burner and the circulating pump.



GAS-FIRED HOT WATER HEATING BOILERS AND ACCESSORIES FOR RADIATOR SLAB RADIANT OR CONVECTOR HEATING

- D Room thermostat, low voltage \$
 E High limit control — Surface-type — Electric \$
 *Immersion-type — Electric \$
 F Solenoid gas control valve (with transformer) — 1/2" \$
 G Pressure-altitude-temperature gage \$
 H Transformer only — Type T-O \$
 J-K-L Hot water heating regulator, No. 45-A — 1/2" \$
 M Relay-transformer, 110 volt \$
 N Electric circulator pump — 1" \$

	Model H-193 (In Deluxe Cabinet)	Model H-193-S (Without Cabinet)
City Gas With Standard Equipment	\$	\$
LPG With Standard Equipment	\$	\$
With additional equipment for above models see package sets "A", "B" & "C".		

Equipment of Standard Models City Gas

1. H-193 Boiler
2. Gas Pressure Regulator
3. 850-P1 Pilotstat
4. Solenoid Valve with Transformer
5. Immersion High Limit Control
6. 1/2" Manual Main Gas Control Valve

LP Gas

1. H-193 Boiler
2. Solenoid Valve with Transformer
3. Immersion High Limit Controls
4. 1/2" Base Combination Automatic Pilot and Manual Main Gas Control Valve.

*Surface type High Limit can only be used in conjunction with limittee, if desired.
 When using limittee specify Surface Type.

MODEL	H-193	
A Cabinet Height	36 1/2"	
B Cabinet Depth	16"	
C Cabinet Width	20"	
D Floor to Return	16 3/8"	
E Floor to Flow	39"	
F Floor to Top Draft Hood	49 1/2"	
G Back to Flow	4 1/2"	
H Flow to Hood	4 1/4"	
J Floor to Electric Connection	7 1/4"	
K Floor to Gas Line	3 1/4"	
L Side to Center Line Connection	8"	
Size of Gas Connection	1/2"	
Flue Connection	4"	
Water Connection — Flow	1 1/4" Sweat Joint—inside or 1 1/4" Male Pipe outside	
Water Connection — Return	1 1/4" Female I.P.S.	
	NAT. & MFD.	LPG
Btu Input per Hour	65,000	50,000
Btu Output per Hour	52,000	40,000
Sq. Ft. Hot Water Radiation (150 Btu Emission)	346	266
Sq. Ft. Direct Hot Water Radiation (150 Btu Emission)	260	200
Approx. Crated Weight	225 lbs.	

Equipment in Package Set "A" (for gravity circ. Hot Water System).

1. Expansion Tank — (12 gal.)
2. Pressure-altitude-temperature gage.
3. Room Thermostat

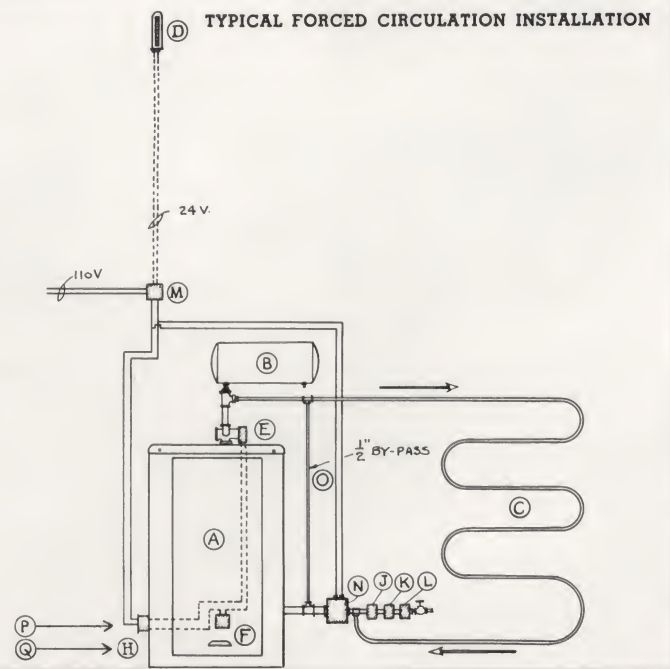
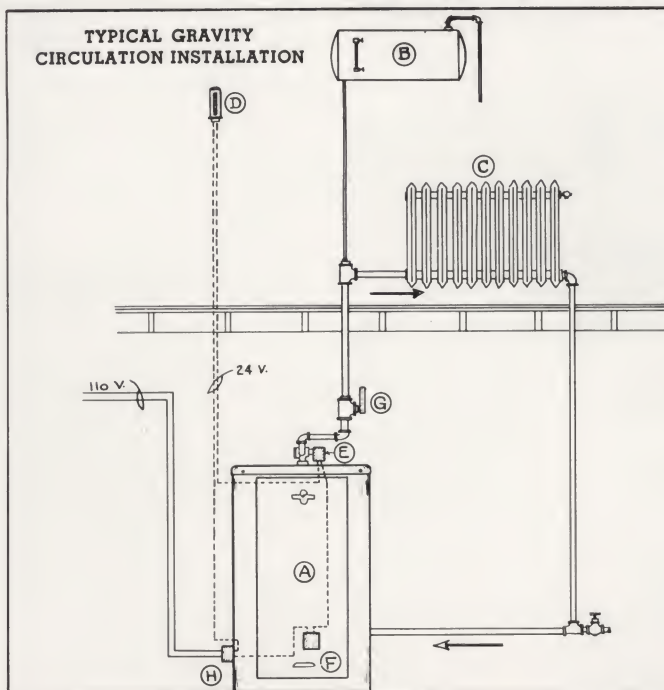
Equipment for Package Set "B" (for forced circ. system used on radiators and convectors).

1. Expansion Tank — (12 gal.)
2. Pressure-altitude-temperature gage.
3. Room Thermostat
4. No. 45 Heating regulator and relief
valves

5. 1" Horizontal Electric Circulator
6. Relay and transformer.

Package "C" — (for slab radiant heat- ing with 1/2" by pass)

1. Expansion Tank — (12 gal.)
2. Pressure-altitude-temperature gage.
3. Room Thermostat
4. No. 45 Heating regulator and relief
valves
5. 1" Horizontal Electric Circulator
6. Relay and transformer.
7. Limitee (Temperature Low limit Circu-
lating control)



- A Heating Boiler
 B Expansion Tank
 C Radiator, Panel or Convector
 D Room Thermostat
 E High Limit Control
 F Solenoid Gas Valve
 G Pressure-Altitude-Temperature Gage
 H Transformer

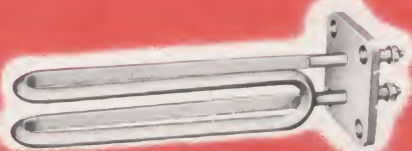
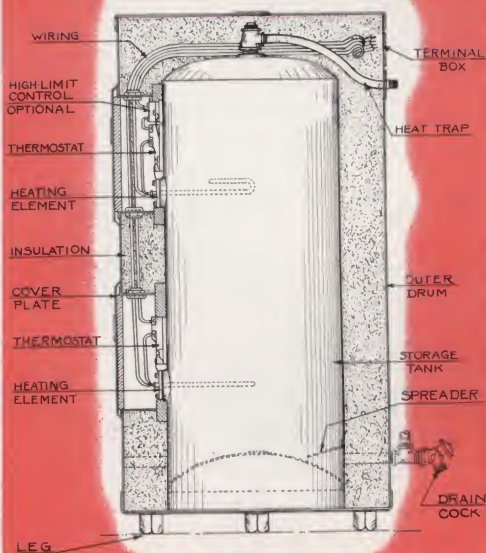
Recommended method of operation, see paragraph "Operation"

- J Relief Valve
 K Water Pressure Regulator
 L Water Strainer and Filter
 M Relay, Transformer, 110 Volt
 N Electric Circulator Pump
 O By Pass
 P Safety Pilot
 Q 1/2" Gas Pressure Regulator

DUAL INSTALLATIONS — Where capacities greater than the maximum rating of a single unit are required, the Model H-193 can be installed in batteries of two or more to deliver the required amount of heat. Where more than one unit is required, it may be advantageous to arrange the boilers for heating separate zones instead of operating both heaters as a single unit.



Features of **HOTSTREAM** Electric Automatic Storage Water Heaters



Chromalox element

WARRANTY

The Storage Tank on Models "C", "GL" & "SL" are warranted for ten years, the last five on a pro-rated basis. Round models with suffix "M" warranted for ten years, the last eight on a pro-rated basis. The other round models warranted five years, the last four years on a pro-rated basis. One year warranty on all other parts.

ACCESSIBILITY OF CONTROLS—Thermostats and elements are easily accessible by removing cover plate.

STORAGE TANK 300 Lb. Test, 127½ Lbs. Working Pressure. Galvanized Copper Bearing Steel. Glass Lined or Stone Lined available in 30, 52, 66 and 82 gallon sizes.

COPPER STORAGE TANK available in 52 gallon size only at extra charge. (Model T-52-EWC.)

THERMOSTAT Snap-action type, Thermodisc direct-break large contacts. Can be set to deliver wide range with maximum 180° temperature setting. Contact type mounted just above heating element. Used for AC only. Furnished in two types known as model AW-5025 lower and AW-5135 upper. Model AW-5025 is a single-pole, single-throw thermostat for regular operation. Model AW-5135 is a single pole, double-throw thermostat, used for "limited demand" or interlocking, "90% off-peak" or simultaneous operation. Single unit heaters have one thermostat to control the single (lower) heating element. Double unit heaters have two thermostats—one to control each element. Also made with Camstat Thermostat No. CD211A-1-AA for 5, 6 and 12 gallon single unit heaters.

HEATING ELEMENT Chromalox immersion electric heating element, engineered to give lasting satisfaction. Features include: insulated head; exclusive fold-back design for free water circulation. No touching parts — eliminates lime forming "nests"; die-pressed throughout for uniform electrical insulation and long life; exclusive one-piece, copper-clad flange completes all-copper contact with water; Triple-sealed terminals for maximum safety — prevents current leakage and damage from moisture; highest quality refractory, compacted to rock hardness; best grade nickel-chromium resistor wire, perfectly centered. Chromalox elements are inexpensive from the standpoint of service-hour cost due to their unusually long operating performance. The connections to the tank are made by bolts through heavy flange stock. This arrangement affords easy removal.

HEAT TRAP A "built-in" heat trap. Unnecessary circulation of heated water and heat losses are not a factor with the Hotstream Electric. Not furnished in 5, 6 and 12 gallon models.

SPREADER Reduces velocity of incoming cold water and spreads it in a manner to assure uniform distribution at the bottom of tank, reducing to a minimum the mixing of heated and cold water. This avoids "chilling" or temperature drops.

INSULATION Completely insulated on all sides with Fiberglas to prevent dissipation of heat. Holds water hot longer with greater operating economy. Highly efficient . . . non-settling. Retains insulating efficiency for life of heater. Flexible blanket of glass fibers which are non-corrosive and rot-proof.

LEGS Modern styling.

DRAIN VALVE Neatly designed valve which permits quick draining. Threaded for hose connection. Polished chrome valve handle.

OUTER JACKET Fabricated of heavy gage, fine grade steel. Painted on inside and outside surfaces with rust and stain resistant baked enamel finish. Decorated with inverted beads for streamlined effect.

FINISH A beautiful combination white with colored trim, high lustre electrostatically sprayed, infra-red baked enamel. Finish will not discolor, chip or crack.

APPROVED Listed as Standard by Underwriters' Laboratories. Also approved by TVA, by the Electric Home and Farm Authority, Rural Electrification Administration, Edison Electrical Institute, as well as Public Utilities.



HOTSTREAM "TABLETOP" Electric AUTOMATIC STORAGE WATER HEATER

This model is designed to fit into and match with the regular kitchen fixtures. It affords additional working space for the housewife as it is made the same height as a table. It is provided with a heavy porcelain enameled top, which is easily washed.

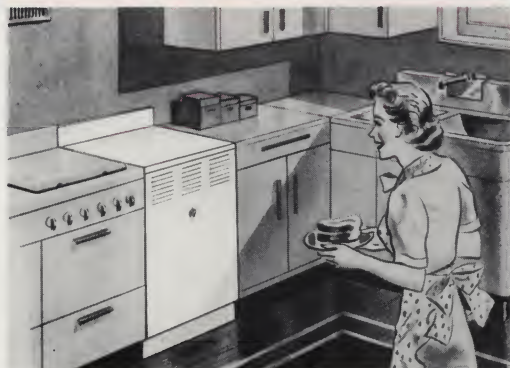
This heater has found ready acceptance in those territories where basements are not provided. Discriminating buyers, who are not buying for "price" alone form a large army of satisfied customers in their purchase of Hotstream "Tabletop." For utility, style, performance, efficiency, and beauty we offer this heater as the best. Specifications of the Hotstream Tabletop Electric are the same as the round models. However, the heater is enclosed in a special steel cabinet, rectangular in shape, with a porcelain enameled top with back splash. It is recessed at the bottom to fit over the base board and snugly against the wall. A toe-space is provided at the front of the cabinet. All connections are readily accessible at the base of the heater. The cabinet is finished in a dazzling white, high lustre baked enamel with black base.

STORAGE TANK — Galvanized Copper Bearing Steel Tank. 300 Lb. Test, 127½ Lb. Working Pressure.

APPROVED — Listed as standard by Underwriters' Laboratories.

WARRANTY

The galvanized storage tank on the Model "ETTM" is warranted for ten years. The last eight-year period is warranted on an annual pro-rated basis. Model "ETT" is warranted for five years (last four years pro-rated). All other parts are warranted for one year.



FITS FLUSH TO WALL

HOTSTREAM ELECTRIC WATER HEATERS TECHNICAL INFORMATION—RECOMMENDATIONS

The method by which the proper size heater can be selected is based on three factors:

1. Wattage of the heating elements that have been specified per tank. To determine the size heating elements to use or to ascertain the "recovery capacities" of these elements, the following rule will be found reasonably accurate: 250 Watts will raise the temperature of one gallon of water 100° per hour.
2. Whether it is an off-peak (controlled) service, or a 24-hour service.
3. The daily hot water needs.

On straight 24-hour service, the average family of four or less can usually be taken care of with a 52 gallon tank, and families of from four to eight with a 82 gallon tank.

Where off-peak service is used, then a tank of sufficient capacity to store the entire day's requirements should be installed. In this event, a minimum of 52-gallon capacity tank is recommended unless the family is a small one or the requirements are not large. It is advisable to over-estimate rather than under-estimate the size heater at all times.

Round Model EW (M) (C) • Tabletop Model ET (M)

The numbers in the opposite table carry recommended wattages in accordance with National Electrical Manufacturers Association standards. Any heater can be supplied with any one, or any combination of two heating elements of the following wattages: 500, 750, 1000, 1250, 1500, 2000, 3000, 4000, 4500, 5000, excepting the following heaters: The 5, 6 & 12 cannot be supplied in over 3000 watts. Single unit "S" models have provision for second element. Standard Voltage 118 or 236 A.C. Elements over 3000 watts are not supplied for use with 118 volt current. Must use 236 volt.

Commercial hookup — Wired so that both units can operate at the same time. ("A" hookup). Can also be wired for "90% off-peak" ("C" hookup) or "100% off-peak" operation ("D" or "F" hookup).

Domestic hookups — Heaters wired for interlocking control so that only one thermostat and one heating element are operative at a time. For A.C. operation ("B" hookup).

B HOOKUP FURNISHED UNLESS SPECIFIED OTHERWISE.

Consult the local power company to determine type of hookup required to comply with their schedules of special rates and wattage limitations, if any. Put this information on your order together with the name of the power company on whose lines the heater is to be used.

WATTAGE AND VOLTAGE OF UNITS MUST BE INDICATED ON EACH ORDER.



HOTSTREAM

Electric Automatic Storage Water Heaters
For Small Volume Hot Water Requirements

TYPICAL APPLICATIONS:

SERVICE STATION WASHROOMS

TRAILERS

TOURIST CABINS

SUMMER COTTAGES

LUNCH ROOMS

GARAGES

OFFICE WASHROOMS

DOCTOR'S AND DENTISTS'S OFFICES

SMALL BARBER AND BEAUTY SHOPS

DAIRY BARNs

MILK HOUSES

APARTMENTS



Stone
Lined
Model
S-5-SL



Model
S-6-E — S-12-E

These heaters are designed for use wherever a small supply of hot water is needed, yet where the modest demand does not justify the expense of a larger unit. The low initial price and the inexpensive operating cost places these heaters within reach of a great number of users. Installation is extremely simple.

It might be questioned at first how useful a water heater with such a small storage capacity might be. It must be remembered, however, that as an example, when five gallons of water heated to 170° F is tempered with cold water, twelve to fifteen gallons of useable hot water is on tap. In the six gallon model the entire storage capacity is initially heated in about one hour.

MODELS S-6-E & S-12-E GALVANIZED TANK S-5-SL STONE LINED TANK

The three models with 5, 6 and 12 gallon storage capacity are made only with a single heating element, the standard being 1000 watts for the 5 and 6 gallon and 1250 watts for the 12 gallon size.

Can be furnished for use with 110 volts AC or 236 AC.

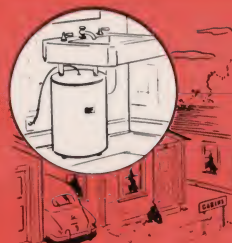
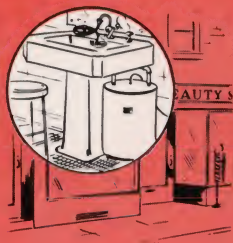
The thermostat and heating elements are similar to those used in our regular line of electric heaters described on page 24.

Where it is desired, any of these three models can be furnished with a rubber covered cord and plug. In this event, the heater is furnished only for 110 volts. Extra charge for the cord and plug.

INSULATION — Completely insulated on all sides with Fiberglas to prevent dissipation of heat. Minimum thickness 2". Holds water hot longer with greater operating economy. Highly efficient — non-settling. Retains insulating efficiency for life of heater. The flexible blanket of Fiberglas is non-corrosive and rot-proof.

WARRANTY

The storage tank on models with suffix "M" are warranted for ten years, the last eight years on a pro-rated basis. Other models warranted five years, the last four years on a pro-rated basis. Other parts warranted for one year.



THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS

COMMERCIAL HOOK-UP: Wired so that both units operate at the same time or for "100% off-peak" or "90% off-peak," Hook-up "A."

DOMESTIC HOOK-UPS: Thermostats wired for interlocking control so that only one thermostat and one heating element are operative at a time. Hook-up "B", B hook-up furnished unless otherwise specified.

STANDARD VOLTAGE: 118 or 236 Volts A.C. Voltage must be specified on each order. When attached to lines with voltages less than specified on nameplate, the wattage and recovery rate will drop in proportion. In order to maintain specified recovery it will be necessary to order elements for the specific line voltage that is being supplied.

MODELS S-5-SL, S-6-E & S-12-E Equipped with junction box (UL Approved).
for rubber covered cord and plug, add to List

NO. 31-L DIAPHRAGM PRESSURE & TEMPERATURE RELIEF VALVE: Add to List

OVERTEMPERATURE PROTECTIVE THERMOSTAT: With Manual Reset installed at factory, when specified. Add to List

Electric heaters for 440 volts can be furnished. It is necessary to wire into the system a relay or contactor, because the thermostats will not take the 440 volts.

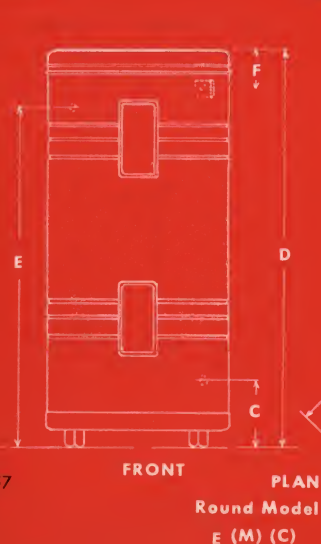
Note: All heaters are supplied for A.C. Diagrams and operating instructions are furnished with each heater. All wiring Standard N.E.M.A. Color Coding unless otherwise specified on order.

COMPLETE TABLE OF SPECIFICATIONS FOR ALL ELECTRIC AUTOMATIC WATER HEATERS

MODEL No.		CAP. U.S. GAL.	A	B	C	D	E	F	SIZE WATER CONN.	SINGLE ELEMENT	DOUBLE ELEMENT		SHIP. WEIGHT
											Lower	Upper	
S6E	S6EM	6	18"	16"	20"	22"			3/4	1000	.....	.....	81
S12E	S12EM	12	18"	16"	31"	33"			3/4	1250	.....	.....	105
S30E	S30EM	30	21"	18"	7"	54"	49"	4"	3/4	1500	.....	.....	176
T30E	T30EM	30								.....	600	1000	178
S42E	S42EM	42	23"	20"	7"	55"	50"	4"	3/4	2000	.....	.....	245
T42E	T42EM	42								.....	750	1250	210
S52E	S52EM	52	25"	22"	7"	57"	52"	4"	3/4	2500	.....	.....	240
T52E	T52EM	52								.....	1000	1500	242
T52E-C	Copper	52								.....	1000	1500	290
S66E	S66EM	66	27"	24"	7"	58"	53"	4"	3/4	3000	.....	.....	307
T66E	T66EM	66								.....	1250	2000	309
S82E	S82EM	82	27"	24"	7"	70"	65"	4"	3/4	3000	.....	.....	348
T82E	T82EM	82								.....	1500	2500	350
T120E	T120EM	120	31"	30"	7"	69"	63"	4"	3/4	.....	4000	4000	400
ELECTRIC STONE-LINED HEATERS													
S5SL		5	13"	12"	26"	27"	.....	.....	1/2	1000	.....	.....	62
S30ESL	T30ESL	30	21"	18"	7"	54"	45"	4"	3/4	1500	600	1000	253
S50ESL	T50ESL	50	25"	22"	7"	57"	48"	4"	3/4	2500	1000	1500	333
S66ESL	T66ESL	66	27"	24"	7"	58"	53"	4"	3/4	3000	1250	2000	420
S80ESL	T80ESL	80	27"	24"	7"	70"	61"	4"	3/4	3000	1500	2500	510
ELECTRIC GLASS-LINED HEATERS													
S30EGL	T30EGL	30	21"	18"	7"	54"	45"	4"	3/4	1500	600	1000	182
S52EGL	T52EGL	52	25"	22"	7"	57"	48"	4"	3/4	2500	1000	1500	241
S82EGL	T82EGL	82	27"	24"	7"	70"	61"	4"	3/4	3000	1500	2500	350
ELECTRIC TABLETOP HEATERS													
S40ETT	S40ETTM	40	25"	24"	4"	36"	24"	22"	3/4	2000	.....	.....	298
T40ETT	T40ETTM	40								.....	750	1250	300
T50ETT	T50ETTM	50	25"	24"	4"	36"	24"	22"	3/4	.....	1000	1500	293
GLASS	T40ETT-GL	40	25"	24"	4"	36"	24"	22"	3/4	.....	750	1250	303

Wattages above are nema standards and are furnished unless otherwise specified.

QUICK RECOVERY WATTAGES UP TO 5000 FURNISHED WHEN SPECIFIED.





HOTSTREAM

MODEL "F-46" Oil Burning

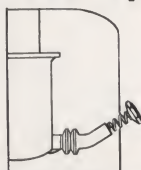
Automatic Storage Water Heater



This is the latest development in gravity feed, oil burning automatic storage water heaters. It burns No. 1 fuel oil or kerosene. It is not to be used with either No. 2 or No. 3 fuel oil. Fuel storage tanks are not furnished with heaters. These are usually supplied free of charge by the oil companies who supply the oil in drums of 50 to 60 gallon capacities.

It is more efficient and is less noisy than most oil burning heaters. It has a normal recovery of 28 gallons per hour, 100 degree temperature rise.

This unit operates with almost the same cleanliness as gas, is easily adjusted and operates automatically. It will deliver 1215 gallons of water for \$1.00, based on an 80 degree temperature rise, with oil priced at 10c per gallon.



Patented Spring Cleaner makes easy the removal of carbon.

CONSTRUCTION FEATURES AND SPECIFICATIONS

ACCESSIBILITY OF CONTROLS — Thermostatic element accessible through metal instruction nameplate just above the control.

GALVANIZED COPPER BEARING STEEL STORAGE TANK — 300 Lb. Test 127½ Lbs. Working Pressure.

CENTER-FLUE CONSTRUCTION — Flue diameter is 6".

CONTROL — Combination thermostat and oil flow regulating valve. Reduces oil flow to burner when desired water temperature is reached. Automatically compensates for fuel flow variation due to oil temperature changes. Customer temperature control adjustment, hardened steel "fail-safe" safety trip mechanism.

BURNER — Patented "Lo-Pilot" vaporizing pot-type. Long life construction, quick lighting, clean smokeless flame. Exclusive Hotstream "disappearing" burner inlet cleaner.

DRAFT-O-STAT — Barometric draft control which automatically maintains correct draft for most efficient burning, regardless of varying weather conditions.

COMBUSTION CHAMBER — Formed by tank apron which completely surrounds burner chamber.

DOOR — Large enough to permit easy access to combustion chamber. Polished chrome handle.

LEGS — Modern styling, pressed steel legs, bolted to tank.

DRAIN VALVE — Neatly designed valve which permits quick draining. Located near bottom of tank for full drainage. Threaded for hose connection. Polished chrome valve handle.

OUTER JACKET — Fabricated of heavy gage, fine grade steel. Painted on inside and outside surfaces with rust and stain resistant baked enamel finish. Decorated with inverted bead for streamlined effect.

FINISH — A beautiful combination white with gray trim, high lustre electrostatically sprayed, infra-red baked enamel. Finish will not discolor, chip or crack.

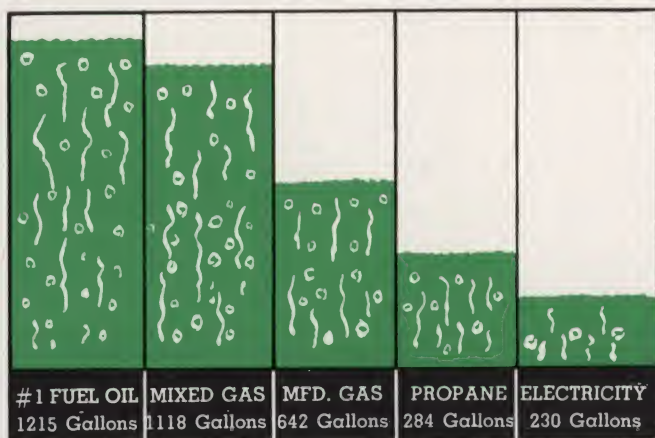
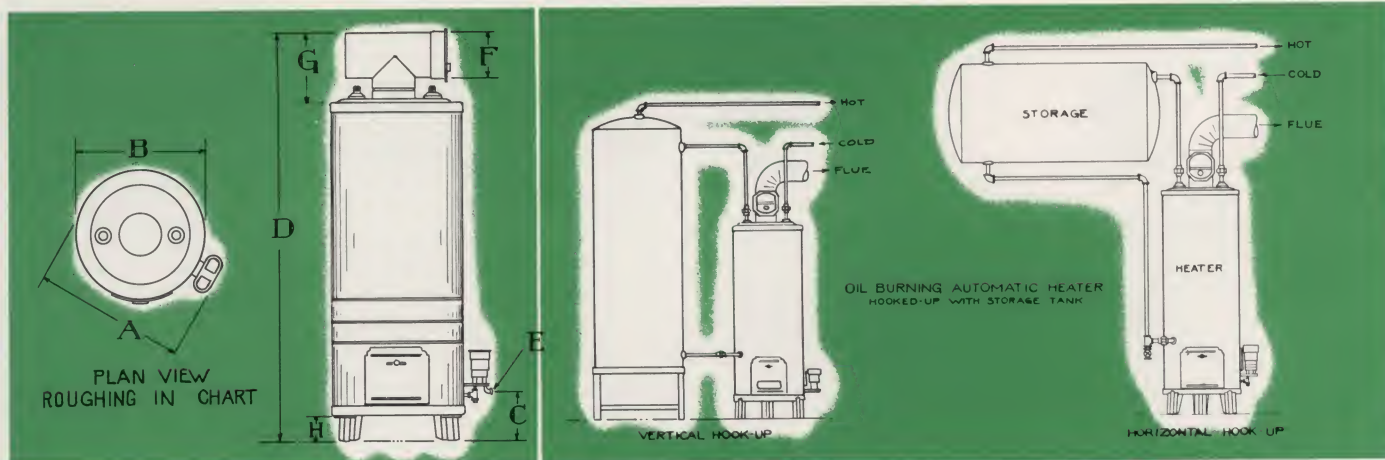
APPROVED — Listed as Standard by Underwriters' Laboratories.



Patented "Lo-Pilot" vaporizing pot-type burner features Noiseless, economical operation.

FIVE YEAR WARRANTY

Galvanized storage tank is warranted for five years. The last four year period is warranted on an annual pro-rated basis. All other parts are warranted for one year.



COST OF HEATING WATER

Showing Number of Gallons of Hot Water for \$1.00

This chart will give you the number of gallons of hot water for \$1.00, based on an 80 degree temperature rise. As shown, the Hotstream Oil Burning Heaters will deliver 1215 gallons for \$1.00.

Oil Burning10c per gallon (135,000 Btu per gallon)
Mixed Gas80c per 1000 cu. ft. (850 Btu per Cubic Foot)
Manufactured Gas90c per 1000 cu. ft. (530 Btu per Cubic Foot)
Propane Gas08c per pound (2575 Btu per Cubic Foot)
Electricity02c per K.W.H. (3415 Btu per K.W.H.)

In order to arrive at the above figures, average fuel costs throughout the entire United States were used.

MODEL NO.	30F-46	40F-46	60F-46
A Greatest Depth	22"	24"	28"
B Diameter of Jacket	18"	20"	24"
C Height to Fuel Oil Inlet	7"	7"	7"
D Overall Height of Heater	65"	66"	68"
E Fuel Supply Connection	1/4" IPS	1/4" IPS	1/4" IPS
F Diameter of Flue Connection	6"	6"	6"
G Top of Heater to Top of Tee	8"	8"	8"
H Height of Legs	4"	4"	4"
Size of Water Connection	3/4"	3/4"	1"
Tank Capacity in Gallons	30	40	60
Input Rating — High Fire, Btu per Hour	29,000	29,000	29,000
Recovery Capacity—High Fire, Gallons per Hour—80° Temperature Rise	35	35	35
Sq. Feet of Radiation — Direct	157	157	157
Sq. Feet of Radiation — Standing	110	110	110
Fuel Consumption — High Fire, per Hour	30 oz.	30 oz.	30 oz.
Fuel Consumption — Low Fire (Pilot) per Hour	2 oz.	2 oz.	2 oz.
Approximate Crated Weight Lbs.	226	271	356
Gelatin Cleaning Capsules, per dozen			
Fuel Oil Filter F-10B			
No. 30-L Diaphragm Pressure Relief Valve			
No. 31-L Diaphragm Pressure and Temperature Relief Valve			

HOTSTREAM SIDE ARM TANK HEATERS FOR ALL NEEDS

MODELS 20F-G1 AND 80F-G1

AUTOMATIC GAS-FIRED SIDE-ARM WATER HEATERS



20F-G1

These models are designed for use with all types of standard range boilers. They can be connected to galvanized steel, copper or stone-lined storage tanks with equal simplicity. The model "F" gives all the advantages of a modern, complete automatic water heater at a low initial cost. Since the installation is so simple, the expense for connecting the heater is also reduced. You can be assured of dependable, economical, trouble-free hot water service . . . every hour of every day with these heaters. Check these superior features.

CONSTRUCTION FEATURES

CAST IRON JACKET — Durable, flared construction, large combustion chamber. Aluminized finish.

DOUBLE COPPER COIL — Consists of two nested spiral coils made of heavy $\frac{3}{4}$ " O.D. seamless copper tubing. (No. 20 Stubbs. gage.) Coil length in table below is measured in straight lengths before coiling. Cast brass manifold solidly joined to top and bottom of coils by phosphorus-copper brazing process. Each coil is factory pressure tested before assembling.

BAFFLE PLATES — Heavy gage stampings scientifically located to provide maximum heat transfer and efficiency.

COIL PROTECTOR — Steel plate, clamped in place on the coil to prevent damage from pilot flame. Will increase life of coil many more years.

DRILLED BURNER — Precision cast iron blue flame burner of lift-off type with raised drilled ports, aluminized finish. Spaced proper distance from copper coil to insure maximum efficiency.

UNITROL 110 is a compact automatic pilot and temperature control. Automatic shut-off of both main and pilot burner gas in the event of pilot flame failure. Designed for all gases including LPG.

ELL MIXER — Precision casting which makes air shutter adjustment easily accessible. Also leaves more space between bottom of the heater and the floor.

DOUBLE DOORS — Hinged doors with aluminum handles. Handles are insulated from door with asbestos washers. Doors open from center of heater to permit complete access to coil, burner, pilot burner and thermocouple lead for easier cleaning. A spring latch attached to the base of the heater locks the doors in the closed position.

DRAFT HOOD — Approved type. Simple and efficient device which prevents down drafts and improves combustion and efficiency.

FINISH — Heat-resistant high lustre, aluminum electrostatically applied and infra-red baked.

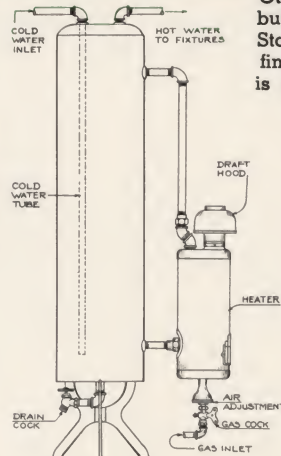
Model No.	Height (Including Draft Hood)	Jacket Diameter	Greatest Width	Gas Conn.	Flue Conn.	Water Conn.		Number of Coils	Coil Length	Recovery Capacity Gals. per hr. 100° rise	Input Rating Nat. & Mfd. Gas Btu per hr.	Shipping Weight	Storage Tank Capacities recommended	Controls
						Top	Bottom							
20F-G1	25½"	7½"	14¼"	½"	3"	¾" F.	1" M.	2	13½'	16.8	20,000	40 lbs.	30 to 40 gal.	Unitrol 110
80F-G1	33"	8¾"	18"	½"	4"	1" F.	1" F.	3	36'	29.4	35,000	70 lbs.	Up to 100 gals.	Unitrol 110

Model "S" Insulated Steel Jacketed Heaters

S-20F-G1 with insulated steel jacket and control for range boiler installation. Same specifications as 20F-G1 — except weight 21 lbs.



No. S-20
Steel Jacketed



The Model "S" is made in three sizes, with or without unions. It has all the basic qualifications of a good tank heater. A steel jacket and inner shell, with pressed steel top, base and door form a light, compact and rigid unit. It is fully insulated with Fiberglas to prevent heat loss. Other Specifications of this heater include: double copper coil; air mixer; air shutter; drilled burner as described for "F" heaters. The coils can be removed without disturbing the insulation. Standard finish of the Model "S" heaters is black baked enamel top and base. Outer shell is finished with electrostatically sprayed aluminum coating and infra-red baked. The inner jacket is made of aluminized steel.

COMPLETE SPECIFICATIONS

F — Coil, Length Feet; G — Sq. Ft. Heating Surface;
H — Recommended for Storage Tank — Max. Cap. Gal.

Steel Jacket Insulated Model Number	Roughing-In Chart							Wt. Recovery		
	A	B	D	E	F	G	H	lbs.	Capacity	Input
S-20	17"	7½"	4¾"	1⅞"	13½	2.6	30	18	19.3	23,000
S-20U	17"	7½"	4¾"	1⅞"	13½	2.6	30	19	19.3	23,000
S-24	20"	7½"	4¾"	1⅞"	16	3.2	40	20	21.0	25,000
S-24U	20"	7½"	4¾"	1⅞"	16	3.2	40	21	21.0	25,000
S-25	22½"	7½"	4¾"	1⅞"	17	3.3	40	31	22.7	27,000
S-25U	22½"	7½"	4¾"	1⅞"	17	3.3	40	32	22.7	27,000

NOTE: Tank heaters for liquefied petroleum gases are supplied only with thermocouple automatic pilots, whether the heater is to be used manually or automatically.

Thermocouple automatic pilot, complete ($\frac{3}{8}$ " or $\frac{1}{2}$ ") for LP gas and city gases, add to list price
WATER CONNECTION: With $\frac{3}{4}$ " — 3/3 Union or $\frac{3}{4}$ " female without union. FLUE CONNECTIONS: All heaters, 3". Gas connections all heaters, $\frac{1}{2}$ ".

Typical copper-coil heater installation.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



HOTSTREAM

Kerosene Water Heaters

Manually-Operated Sidearm Type to Provide Low-Cost Hot Water Service for Country and Suburban Homes

The folks living in the suburbs, in the country, or way out in the "sticks" need the comforts and pleasures of "hot water service," just as much as the people living in the city. Everyone knows the value of hot water for a hundred-and-one uses which make for health and happiness. There is no reason why they should be without this service.

With a Hotstream Kerosene water heater it is possible to heat twice as much hot water for the same amount of money as would be the case with manufactured gas; four times as much as bottled gas and five-and-one-half times as much as electricity.

FEATURES OF HOTSTREAM KEROSENE WATER HEATERS

JACKET — Cast iron. Durable flared construction. Aluminum finish.

QUADRUPLE COPPER COILS — The compact "Quadruple Coils of Copper" makes Hotstream Kerosene heaters extremely efficient and economical. Four $\frac{3}{8}$ " copper coils are connected, individually, to a brass manifold in such a way as to bring their entire heating surface in contact with the flame. This permits faster heating and greater fuel saving. Union coil connectors make individual coil replacement easy. (Models with double copper coils, optional.)

OIL RESERVOIR — All steel tank, one gallon capacity with special valve cap. Non-breakable.

"KEROGAS" BURNER — Hotstream is the only manufacturer of water heaters licensed to use the patented "Kerogas" burner. These burners are available in two types, three models. Outstanding features of both types are: instant lighting; steady, smokeless, quiet, blue flame; easily adjusted for high, medium or low fire. As only the vapor off the burner is consumed, the asbestos lighting ring of the wickless type burner and the wick of the wick type burner will give lasting service with no more attention than an occasional wiping off with a soft cloth.

CONTINUOUS OPERATION — Saves fuel — gives maximum hot water service. The wickless type burners can be specially equipped at the factory with an oil level control valve in place of the oil reservoir. This permits the heater to be connected to a large fuel supply from tanks or drums by connecting a supply line from the source of fuel to the control valve. This valve will keep the fuel at a definite level, always supplying the correct amount of fuel to the heater.

Wick-Type Burner



Oil level valve.



Wickless Type Burner



Model No.	List Price	Number of Coils	Type of Kerogas Burner	Recovery Capacity Gallons Per Hour	Number of Hours one gallon of Kerosene Burns —		Approx. Crated Weight
					High Fire	Low Fire	
20-GK	\$	4	Giant Wick	10.5	14.5	24.2	50 lbs.
40-GA		4	Giant Wickless	15.0	10.7	33.6	50 lbs.

Recovery capacities are based on a 60° temperature rise.

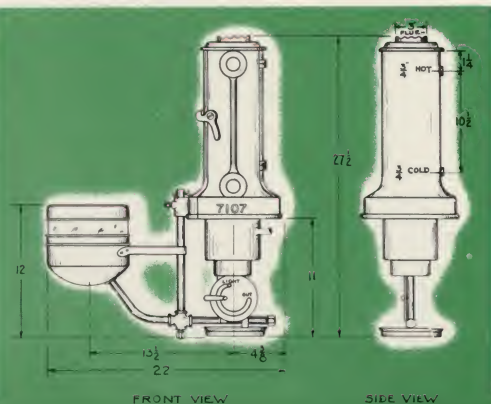
Oil level valve (for wickless burner heaters) installed at factory, add\$13.40

KEROSENE WATER HEATERS — REPAIR PARTS

Always mention heater number, and description of part when ordering —

DESCRIPTION OF PART	WICK TYPE (20KW, 20WD)	GIANT WICK (20GK, 20GD) #43	GIANT WICKLESS (40GA, 40GD)
Metal Tank & Valve (Glass tank not avail.)	\$3.28	\$3.28	\$3.28
Enameled Burner Drum Shell Only	4.48	5.46	5.46
Burner Drum Assembly — Complete	6.56	9.08	9.08
Inner Perforated Drum	.92	1.69	1.69
Outer Perforated Drum	.92	1.69	1.69
Lifting Wheel for Brass Burner	2.17	2.17	.....
Brass Kerogas Burner*	Not Avail.	15.37	Not Avail.
String Pipe W/Sub-Tank, Burner Support	5.45	5.45	5.45
Drip Tray	.61	.61	.61
Automatic Tank Valve Cap	.96	.96	.96
Drum Rods W/Cotter Pins (Set of 2)	.24	.24	.24
Wick W/Metal Carrier (#20) (#430) (#30)	1.00	1.50	.....
Asbestos Lighting Ring	.....	.....	.39
Heater Jacket with Door	12.10	12.10	12.10
Brass Manifold	3.27	3.27	3.27
Single Copper Coil with Union Nut	4.31	4.31	4.31
Suspension Bracket with Set Screw	.96	.96	.96
Quadruple Copper Coil Assembly	21.31	21.31	21.31
Double Copper Coil Assembly	9.70	9.70	9.70
Suspension Nipple with Cotter Pin	.52	.52	.52

*Not available — can furnish a complete burner outfit.



FRONT VIEW

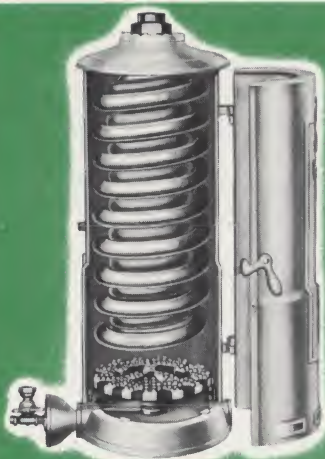
SIDE VIEW



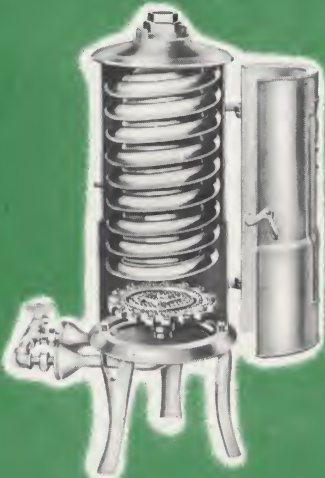
HOTSTREAM

Large Volume, Heavy Duty Heaters

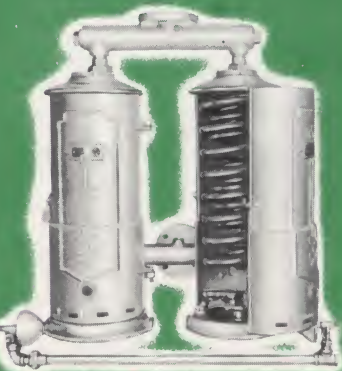
See pages 33 to 35 for Typical Hookups



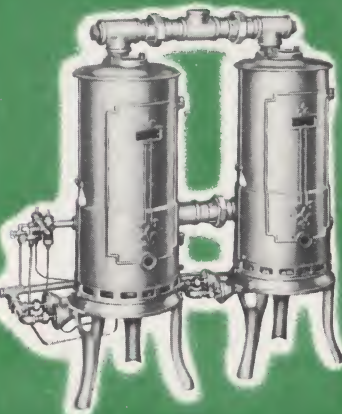
Model 80-U



Model 193



Twin - 80



Twin - 192

These heaters are especially large multi-coil units, which are particularly adapted for use in apartments, restaurants, hotels, garages, or wherever a large supply of hot water is required. These heaters are adapted also for use as auxiliary heaters for hot water, vapor or steam-heating systems and can handle the load completely for small hot water heating jobs, particularly radiant and panel heating installations. The larger sizes of this group are extremely rugged and powerful—built to supply large quantities of hot water rapidly and economically. Included in this line are models with large diameter tubing which makes these particular heaters excellent for use in hard water territories. Inasmuch as the lime in hard water does not usually deposit in copper tubing until the water temperature rises above 160°, it is logical that by speeding up the circulation through the large tubing, overheating of water is prevented and deposits of lime minimized. The large size tubing used in these heaters insures rapid circulation of water and consequently, reduction of lime deposits. Water for domestic use is seldom heated to a temperature above 150°.

Features of Large Volume Heaters

CAST-IRON JACKET—Durable, flared construction, large combustion chamber. Aluminized finish. Hinged door opens wide to permit full access to burner and coil. Model No. 192 and 193 are equipped with three heavy duty legs to support the heater.

COPPER COIL—The table below lists the number of coils for each model. All of these heaters are multi-coil units. Nested spiral coils are solidly joined to brass manifold by phosphorous-copper brazing process. Each coil is carefully tested with air pressure under water before heater is assembled. All coils are union-type. Size of tubing is also listed in the table below. No 18 Stubbs gage is standard.

BAFFLE PLATES—Heavy gage stampings scientifically located to provide maximum heat transfer and efficiency.

UNIONS—Two-thirds brass unions are standard on all models.

AIR MIXER—Designed to provide economical burner operation by supplying correct amount of primary air. All mixers are the "ell" type. Model No. 80-U and No. 182 have provisions for setting the mixer tube in any of the three positions. Model No. 192 and 193 are equipped with twin air mixers tubes.

AIR SHUTTER—Cast iron shutter accurately designed to control primary air delivery over wide range. A lock nut is provided so that the shutter setting can be set permanently.

DRILLED BURNER—Precision cast iron blue flame burner of lift-off type with raised drilled ports, aluminized finish. Spaced proper distance from copper coil to insure maximum efficiency. All burners equipped with flange provision for thermocouple automatic pilot burner. Model No. 192 and 193 has a dual burner consisting of a center and outer ring burner head.

MANUAL SHUT-OFF VALVE—All brass construction. Can be throttled with handle for wide range of flow.

FINISH—Heat resistant, high lustre, aluminum coating. Electrostatically sprayed and infra-red baked.

"Twin" Large Volume Copper Coil Heaters

The above heaters can be furnished as twin heaters to facilitate installation on jobs requiring more than one of the above heaters.

Twin heaters are furnished completely manifolded ready for quick installation. Two draft hoods are furnished as standard equipment. Thermostats and pilots can also be furnished. All equipment is installed at the factory, except for the thermostat, which is packed separately. Many installations require the thermostat in different locations according to intended type of service.

COMPLETE SPECIFICATIONS AND LIST PRICES OF HOTSTREAM LARGE VOLUME HEATERS

Model No.	80-U	182	192	193	Twin 80	Twin 182	Twin 192	Twin 193
With 1/2" Thermocouple Auto. Pilot								
With 1/2" Thermocouple Auto. Pilot & Thermostat†								
With Thermostat† Only								
Overall Height — Less Legs (10")	24 1/4"	23 1/4"	26"	26"	24 1/2"	24 1/2"	26"	26"
Diameter — Base	10 1/4"	10 1/4"	12 1/2"	12 1/2"	Assembly		Assembly	
Max. Diameter — Jacket	8 3/4"	8 3/4"	11"	11"	18" Wd. x 28" Lg.		22" Wd. x 32" Lg.	
Base to C/L Lower Water Conn.	5 1/2"	5 1/2"	5 3/4"	5 3/4"	5 1/2"	5 1/2"	5 3/4"	5 3/4"
C/L to C/L Top Water Conn.	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
Coil Length, Ft.	36	26 1/2	31 1/2	51	72	53	63	102
Sq. Ft. Heating Surface	7.0	6.9	9.7	13.3	14.0	13.8	19.4	26.6
Recommended for Storage Tank, Maximum Capacity Gallons		100	100	300	300	300	720	720
Input Rating	Natural Gas	35	35	65	65	70	130	130
1000 Btu	Manfd. Gas	45	45	65	65	90	130	130
Per Hour	LP Gas	30	30	40	40	60	80	80
Recovery Cap.	Natural Gas	29.4	29.4	54.6	54.6	58.8	109.2	109.2
Gallons per Hr.	Manfd. Gas	37.8	37.8	54.6	54.6	75.6	109.2	109.2
100° Temp. Rise	LP Gas	25.2	25.2	33.6	33.6	50.4	67.2	67.2
Sq. Ft. Hot Water Radiation	Rated—Nat. Gas Actual—Nat. Gas.	187 140	187 140	346 260	320 240	374 262	692 520	640 480
No. of Coils		3 2	2 2	3 3	6 6	4 4	4 4	6 6
Water Connection — Union		1"	1"	1 1/4"	1 1/4"			
Water Connection — Direct		1 1/2"	1 1/2"	2"	2"	2"	2"	2"
Flue Connection		4"	4"	4"	4"	4"	4"	4"
Approximate Crated Weight — Lbs.		80	80	125	128	215	215	295
All Gas Connections 1/2" | C to C of flues — Twin 80 or 182 — 13 3/4"; — Twin 192 or 193 — 19".								

NOTE: ALL UNITS MUST HAVE DRAFT HOODS!

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS



HOTSTREAM LARGE VOLUME COPPER COIL WATER HEATERS

Typical Installations, Hook-Ups For Heating Service Water And House Heating

Each of the following illustrations shows a typical hook-up of large volume copper coil water heaters for a specific purpose. These drawings are essentially schematic, but they contain all the elements necessary to complete each hook-up.

MANUAL OPERATION

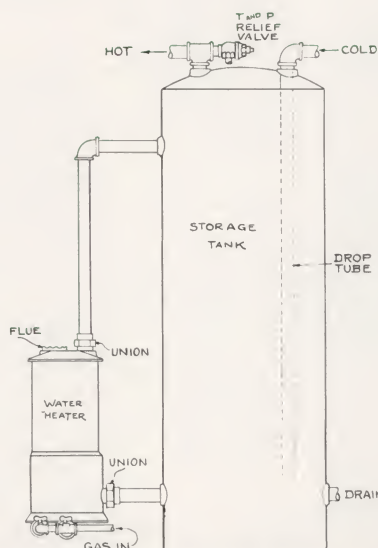


FIGURE NO. 1 — Single large volume copper coil water heater connected to a vertical storage tank. No controls such as thermostat or automatic pilot are used in this illustration since operation will be manual.

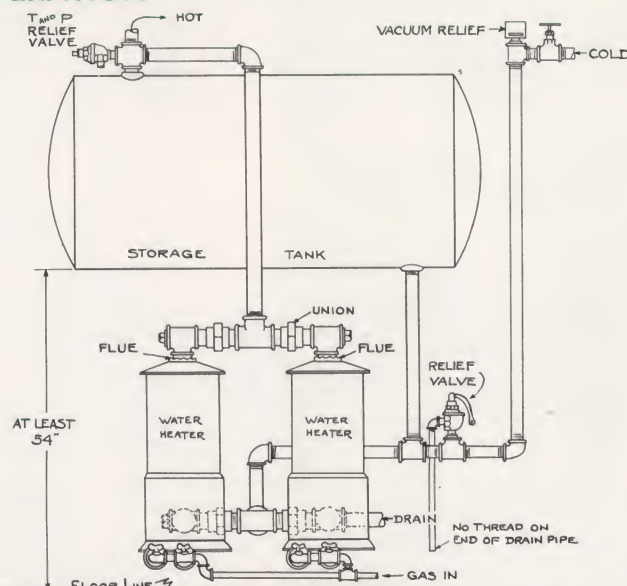


FIGURE NO. 2 — Twin heater connected to a horizontal storage tank. This is also a manual operation hook-up and no controls are therefore illustrated. Two or more heaters can be hooked up in this manner to a single storage tank.

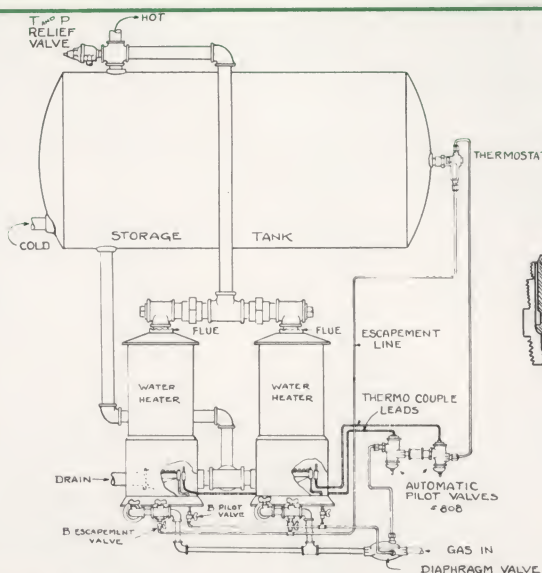
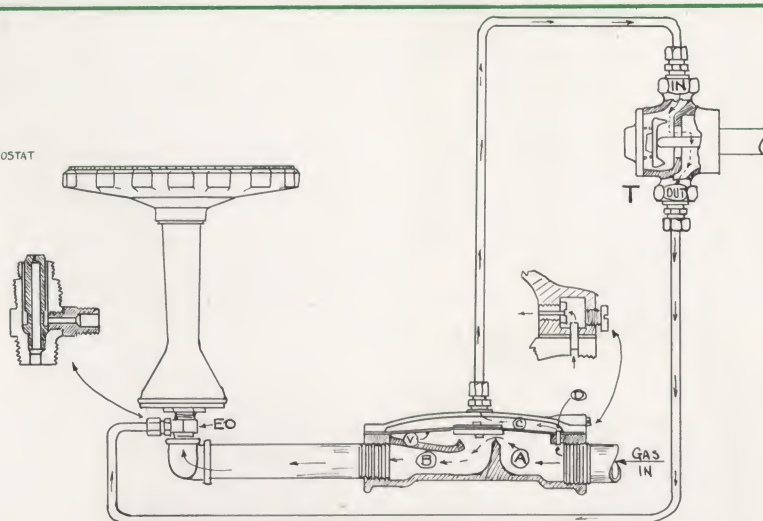
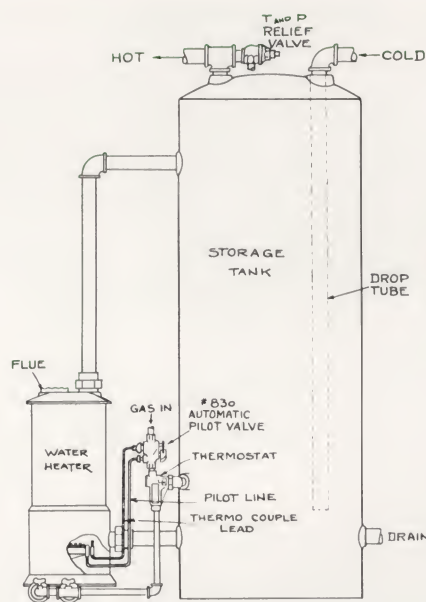


FIGURE NO. 3—Twin heaters connected to horizontal storage tank. Completely automatic control through diaphragm valve operation. Each heater has a separate thermocouple automatic pilot valve. This is not a complete gas shut off system and is therefore not recommended for liquefied petroleum gas. In the event of pilot failure only the main burner gas supply will be shut off. Gas to the pilot burner will continue to flow. Can be used with all gases except liquefied petroleum gas.



How Diaphragm Valve Operates: When gas passes freely from chamber "A" to chamber "C" through passage "D," and is allowed to continue as escapement gas to escapement orifice "EO," the valve will remain open, allowing gas to pass from chamber "A" to chamber "B" and on to the main burner.

When the control "T" (or any type control) closes gas pressure builds up in chamber "C" forcing the diaphragm "V" down to the lower position and prevents gas going to chamber "B" until control "T" again opens, relieving gas under pressure in "C" to pass through special escapement orifice "EO" and burns on main burner with main gas.



COMPLETE GAS SHUT-OFF HOOK-UPS

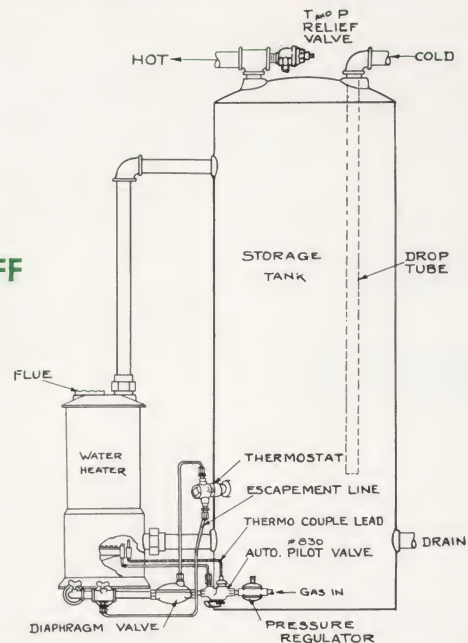


FIGURE NO. 4 — Model No. 80-U or No. 182 connected to vertical storage tank. Thermostat must have $\frac{1}{2}$ " gas connection. No. 830 Baso thermocouple pilot will close off gas to both the main burner and the pilot burner in the event of pilot failure. This hook-up is recommended for all gases.

FIGURE NO. 5 — Large volume copper coil heater connected to vertical storage tank. This hook-up also suitable for installation with horizontal storage tank. Features of this hook-up include complete diaphragm valve control as well as complete shut-off in the event of pilot failure by No. 830 automatic pilot valve. For use with all gases except liquefied petroleum gases.

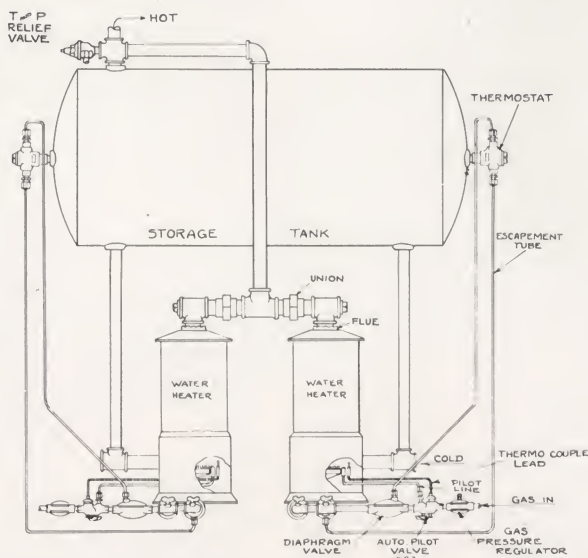


FIGURE NO. 6 — Two large volume copper coil water heaters connected by a manifold to a single horizontal storage tank. The gas supply hook-up is the same as Figure No. 5. Diaphragm valves are utilized. Each heater is completely independent of the other insofar as the gas system is concerned. In a like manner, more than two heaters could be hooked up to the same storage tank. For use with all gases except liquefied petroleum gases.

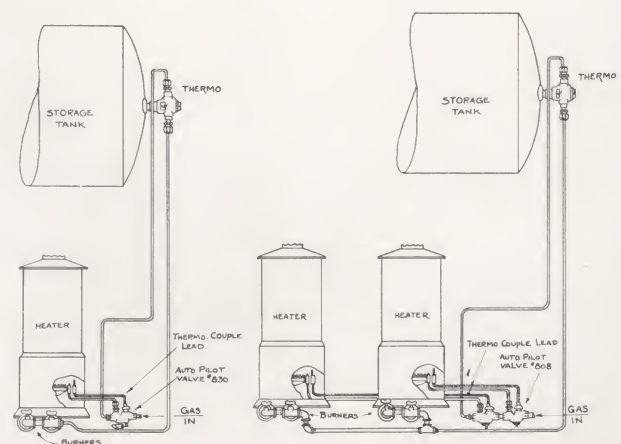


FIGURE NO. 7 — One or two large volume copper coil heaters, connected to horizontal storage tank. No diaphragm valves are used. Since thermocouple leads cannot be furnished long enough to reach from the tank to the heater, it is necessary to install the automatic pilot near the heater and run the gas line to the thermostat. This installation is suitable for use with all gases including liquefied petroleum gas.

LARGE VOLUME COPPER COIL WATER HEATERS FOR SMALL HOT WATER HEATING JOBS

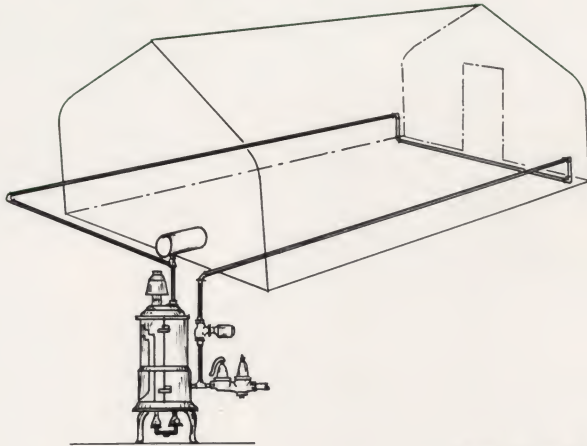
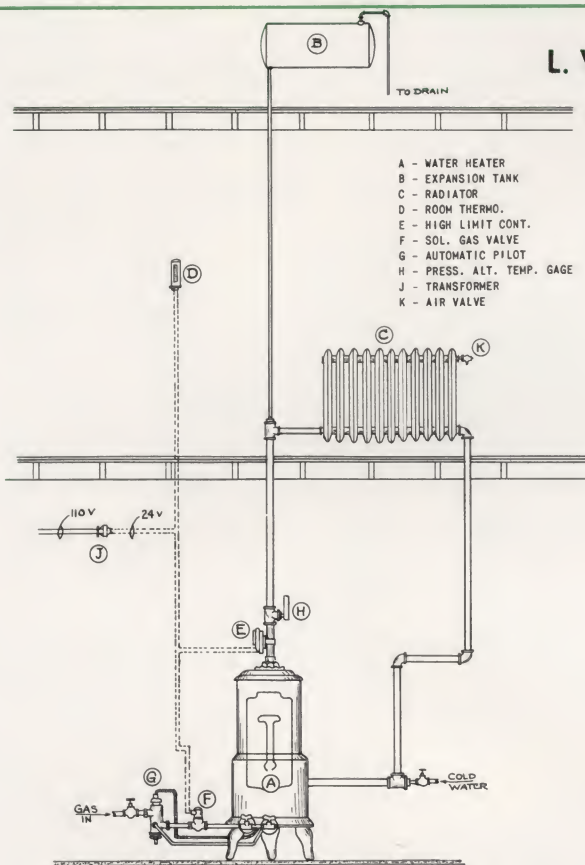


FIGURE NO. 9 — This schematic drawing shows the installation of a large volume water heater set up to make a heating system for a greenhouse. It can also be used for other small heating jobs such as sun parlors, play rooms and other small installations within the capacity of these models.

Also available in the modernistic cabinets

Add to cost of each heater:

Transformer #830 Thermo-couple Safety Pilot
High Limit Control 1/2" Solenoid Valve

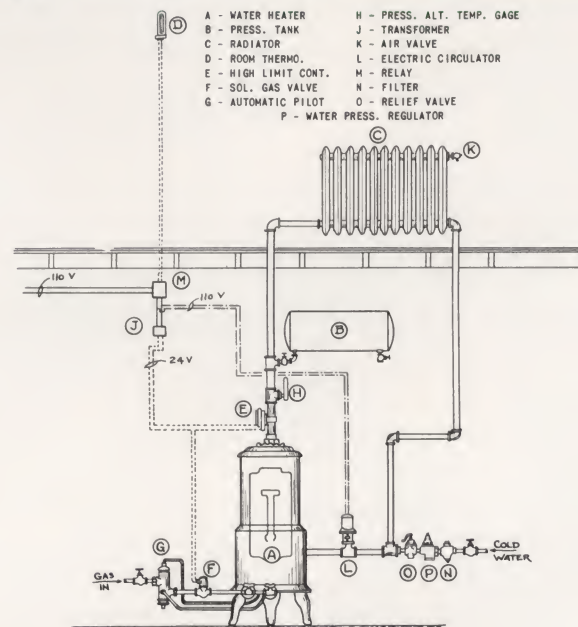


GRAVITY CIRCULATION

H-193 and H-193-S

FIGURE NO. 9 — Typical atmospheric or open system showing necessary equipment for room thermostat temperature control. Heater is equipped with thermocouple automatic pilot which will shut off gas supply to main burner and pilot in the event of pilot failure. System uses 24 volt solenoid gas control valve.

L. V. Copper Coil Heaters for HOUSE HEATING



FORCED CIRCULATION

H-193 and H-193-S

FIGURE NO. 10 — Typical circulating or closed system showing necessary equipment to control heater operation from room temperature. This heater is equipped with thermocouple automatic pilot. A feature of this system is the fact that the electric circulating pump will operate until the room thermostat is satisfied. The heater will operate until either the room thermostat or aquastat closes the solenoid gas valve. In the event of pilot failure, the gas will be shut off to both the main burner and the pilot burner. This hook-up is for use with all gases.

There is only **ONE** **Draft-O-Stat**

Trade Mark
Registered

BAROMETRIC DRAFT CONTROL
and **HOTSTREAM** makes it!

Draft-O-Stat has for many years been the standard barometric draft control mechanism for boilers, furnaces, oil burners and stokers. Hundreds of thousands of successful installations on domestic, commercial and industrial heating equipment have established its leadership in the field.

The Model "B" Draft-O-Stat with all-steel construction has been designed for greatest efficiency. It insures a steady, unchanging rate of draft in the chimney, providing maximum utilization of furnace heat. Top performance and long life is insured by the features shown below.



Model "A" Draft-O-Stat (original design) available in domestic sizes 14" to 20"; commercial sizes 16", 18", 20" and 24"; industrial sizes 24", 30" and 36".

INSIST ON *Draft-O-Stat*
FOR BEST RESULTS ON EVERY
HEATING INSTALLATION

The HOTSTREAM Heater Co.

2363 EAST 69th STREET • CLEVELAND, OHIO

Manufacturers of a complete line of gas-fired, electric, oil-burning and bottled gas water heaters and draft controls



HOTSTREAM Draft-O-Stats for Fuel Economies

A DRAFT CONTROL FOR EVERY REQUIREMENT — FROM ONE SOURCE

- Listed as Standard by Underwriters' Laboratories
- Draft-O-Stat is the exclusive trade-mark for the barometric draft control manufactured by The Hotstream Heater Co.

DRAFT-O-STAT Barometric Draft Controls

Bring a Higher Standard of Performance and Economy to the Domestic, Commercial and Industrial Heating Field

Exceptionally Large Effective Area . . . Self Cleaning, Self Aligning, Self Centering Rocker Bearings . . . Maximum Flexibility . . . Precision Adjustment . . . Feather-Light Sensitivity . . . Rugged and Durable . . . Polished Chrome Fittings . . . Die-Stamped Welded Steel Construction . . . Baked Enamel Finish . . . For all Flue Sizes from 6 to 12"



For many years the Draft-O-Stat has been the standard draft control mechanism of the heating industry . . . the choice of heating engineers. Manufacturers of boilers, furnaces, oil burners and stokers have specified Draft-O-Stat for use with their equipment. The Draft-O-Stat has been an important factor in the development of modern domestic heating equipment.

The model "B" Draft-O-Stat is the logical development of Hotstream pioneering in draft control engineering. It represents the newest achievement in precision combustion control for the small heating plant. Draft-O-Stats make possible a higher economy in fuel consumption than has ever been possible heretofore.

FUNCTION OF BAROMETRIC DRAFT CONTROLS . . . Barometric draft controls are balanced counter-weighted metal air valves, which are usually mounted on the flue pipe. A chimney furnishes constantly fluctuating amounts of draft or vacuum. Barometric controls function to "balance out" these fluctuations. They insure a steady, unchanging rate of draft or vacuum in the furnace to draw through the furnace or boiler the heated gases of combustion at a minimum rate of travel. By so regulating the flow of heated gases, a maximum utilization of the useful heat is assured.

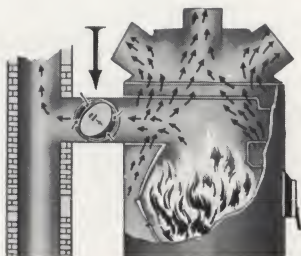
The use of a Draft-O-Stat, in conjunction with a heating installation, helps to insure the efficiency for which the boiler or furnace was designed originally. Installation of a new Draft-O-Stat to replace an obsolete draft control, is both an efficiency and an economy measure. The Draft-O-Stat will pay for itself in operation . . . is quickly and easily installed in the flue pipe of any coal, oil or gas boiler, or furnace . . . gives long-lasting, trouble-free service. Draft-O-Stat is 100% automatic in operation and, when once set, it requires no further adjustment. It will always maintain an absolute constancy of draft regardless of varying weather conditions, thereby enabling the heating plant to burn fuel more efficiently and with resultant increased economy.

AND DRAFT-O-STAT IS EASY TO INSTALL . . . Requires no wiring or piping and works equally well on all heating plants regardless of fuel used. Takes the place of the old-fashioned hand damper. Draft-O-Stats are packaged in individual cartons with or without the thimble. The thimble eliminates the necessity of using a tee. It is only necessary to cut a hole in the flue pipe, strap the thimble in place and set the Draft-O-Stat into the thimble. Model "B" Draft-O-Stats are crimped to fit easily into their respective flue sizes. The use of a thimble saves a great deal of installation time as compared with inserting a complete tee. Specially long thimbles are standard with the model "B", which keeps the Draft-O-Stat out of the direct flue passage. This is particularly important on coal-fired installations.

Finish is red and black baked enamel, with plated fittings and adjusting mechanism. 6" thimble fits 5", 6", or 7" flue pipes; 9" thimble fits 8", 9", or 10" flues.

Size	Model	Weight Lbs.	Price Draft-O-Stat	Price Thimble	Size and Model No.	Comp. Weight Lbs.	Draft-O-Stat and Thimble
6"	B	2 1/4	\$	\$	6-BT	2 3/4	\$
7"	B	2 1/2			7-BT	3	
8"	B	3			8-BT	3 1/2	
9"	B	4			9-BT	5	
10"	B	4 1/4			10-BT	5 1/2	
12"	B	6 3/4			12-BT	8	

THIMBLES ARE FURNISHED ONLY WHEN SPECIFIED



Typical installation showing a Draft-O-Stat installed in flue-pipe between chimney and furnace.

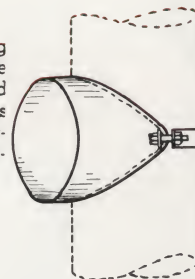
DRAFT-O-STAT REPAIR PARTS

Straps for Thimbles—6" to 10".....List \$
Straps for Thimbles—12" to 20".....

"Flutters" are 70% of the price of the "Draft-O-Stat"
"Rings" are 40% of the price of the "Draft-O-Stat."
"Triple-threaded adjusting rod assemblies" are 30% of the price of the "Draft-O-Stat."

Thimbles for Draft-O-Stat

To eliminate the necessity of using a Tee, a hole may be cut in the flue pipe and a "Thimble" strapped on, into which the Draft-O-Stat is installed. This affords a considerable saving as compared with inserting a complete tee.



COMMERCIAL AND INDUSTRIAL DRAFT-O-STATS

These Draft-O-Stats are constructed with cast iron or cast aluminum outer rings and heavy steel flutters. The flutters are red baked enamel and the rings are finished with black. The adjusting rod assembly is made up of a brass triple threaded screw and floater-weight, which has been plated to withstand the action of corrosive flue gases. This line utilizes the 34 degree bearing angle which was determined by long, arduous engineering research to be the correct bearing angle for maximum flexibility. This is the original Draft-O-Stat design.

Commercial and industrial Draft-O-Stats are for use in apartment buildings, hotels, factories, schools, office buildings, etc. They can be used on natural draft or forced draft installations, whether hand-fired, coal-fired or oil-fired. Gas-fired installations also require Draft-O-Stat barometric draft control. In 95 out of every 100 cases, a new Draft-O-Stat is needed. When the proper survey is made, it will be determined that definite savings can be guaranteed by installation of a barometric draft control. In many cases, this saving more than pays for the installation before the first year of use.

Sizing of Draft-O-Stats for particular installations is usually determined by the size of the breeching or flue pipe. This is true because in most cases the installation is designed with the proper outlet and flue pipe size in mind. In cases of converted installations, however, it may be necessary to use more than one smaller Draft-O-Stat or even a larger size Draft-O-Stat than the flue pipe since the available draft may be too great, and the flue size much larger than necessary.

The Model "AC" or "C" commercial size Draft-O-Stats are equipped with a hand control for setting the flutter to full draft position for boiler inspection, soot blowing or for quick pick-up under extreme load or whenever full draft is required. The Model "I" industrial sizes are equipped with this same type of manual flutter control except that it also includes a locking device for additional convenience in obtaining full draft settings.

	Size	Model	Price Draft-O- Stat	Shipping Weight Lbs.	* Price Thimble	Size and Model No.	Draft-O- Stat and Thimble*	Ship. Weight Lbs.
Domestic	14"	A	\$	11	\$	14-AT	\$	9
	16"	A		7		16-AT		10
	18"	A		9		18-AT		11
	20"	A		10		20-AT		15
Comm'l	16"	AC		7		16-ACT		10
	18"	AC		10		18-ACT		12
	20"	AC		12		20-ACT		15
	24"	C		15		24-CT		20
Commercial with hand control. Without hand control deduct from list price.								
Industrial	24"	I		36		24-IBT		64
	30"	I		51		30-IBT		87
	36"	I		70		36-IBT		115
Without locking device, deduct from list price. *Includes breeching plate on Industrial Models.								
THIMBLES ARE FURNISHED ONLY WHEN SPECIFIED								



Model "AC"



Commercial Model "C"



Industrial Model "I"



HOTSTREAM Draft Controls for Fuel Economies

A DRAFT CONTROL FOR EVERY REQUIREMENT — FROM ONE SOURCE

AUTOMATIC DRAFT REGULATOR MODEL "CST"

To be used with wick-type kerosene and gas water heaters, range burners and gas warm air circulating heaters. The Dual Valve arrangement eliminates the possibility of down draft and also controls excessive stack drafts. Patented by Hotstream.

Size	Safety Valve Only	Check Valve Only	Tee Only	Weight Complete	List Price Complete
3"	\$	\$	\$	1 lb.	\$
4"				1 3/4 lb.	
5"				2 1/4 lb.	
6"				3 lb.	
7"				4 lb.	
8"				5 1/4 lb.	

Safety valve has a fixed weight and a stop. Swings one direction only. Check valve has no weight and swings in or out.

Above prices are for Black Finished Steel units. Galvanized furnished only if specified.

For Chrome Plated, add extra to "CST" list prices —

3" Size	\$	4" Size	\$
5" Size		6" Size	
8" Size			\$

MODEL "M" SERIES

Low cost draft control. Offers same advantages as the Draft-O-Stat (see page 40), regulating draft to pre-set quantity regardless of varying weather conditions. The following features are incorporated into the model "M" series to insure lasting service and sensitive control: Steel Ring and flutter are die-stamped. Bearings are hardened brass, nickel plated. Balance weights and adjusting mechanism are accurately machined to provide perfect balance and sensitive adjustment. All parts are plated or coated to prevent rusting. The tee is made of polished blue steel, crimped on one end. Adjusting mechanism for MR6 is packed separately from the flutter to prevent damage in shipment and to reduce size of shipping cartons. Finished in red and black baked enamel.

Size	Model	Price Draft Control Only	Price Draft Control w/Thimble	Weight Lbs. Each	Extra Price Individ. Carton	Price Draft Control w/Tee	Weight Each Lbs. (Less Cartons)	Extra Price Individ. Carton
4"	MR			3/4			1	
6"	MRF			1 1/2			1 3/4	
6"	MRFF*			1 1/2			1 3/4	
8"	M			1 3/4			2	

*Not adjustable. Draft setting must be specified with order. Unless specified, pkd. individ.

DRAFT HOODS

Draft Hoods are used primarily with gas-fired water heaters. They eliminate down drafts, thereby protecting pilot and burner flames. This permits better combustion. A Draft Hood should be placed on the flue outlet of the heater and connected to the flue line. Every water heater should be equipped with one. All sizes are approved. Where there is a limited height to the installation, it may be necessary to use the horizontal type instead of the vertical.

Size	Vertical A	No. to a carton (vertical)	Horizontal A	No. to a carton (horizontal)	List Price — Black Enamel	
					Vertical	Horizontal
3"	12"	36	6 1/2"	20		
4"	16 1/2"	24	8 1/2"	12		
5"	19"	12	10 1/2"	6		
6"	21 1/2"	8	12 1/2"	4		
7"	25"	1	14 1/2"	2		
8"	28 1/2"	1	16 1/2"	1		
9"	32"	1	18 1/2"	1		
10"	34 1/2"	1	20 1/2"	1		

NOTE: For less than carton lots, add 10% to list price.

3" and 4" sizes black enamel. All others galvanized.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS

THE SHALLOW DESIGN GAS FIRED

HOTSTREAM MODEL HC FLOOR FURNACE

ALL NEW — Revolutionary — Luxurious with Three-Fold Economy of FIRST COST — INSTALLATION — OPERATION

The completely redesigned Model HC gas floor furnace is available in three popular sizes with ratings of thirty-five, fifty and sixty-five thousand BTU. The line is rounded out by the reliable Model HC-80 floor furnace (80,000) BTU for larger jobs.

Model C design incorporates outstanding new and exclusive features of great importance not alone to the owner but to the installer and service man as well. They result in superior performance, time and labor saving installations and easy and complete accessibility of all parts and controls from the floor level. Top quality, design perfection and trouble free operation with all types of gas combine to make this latest Hotstream product today's outstanding floor furnace value.

The shallow design of Model HC floor furnace eliminates the need of excavation when installed in homes without basements. All parts and controls are housed within the outer casing allowing the complete assembly to be lowered into place thru the floor opening. Only the original gas and flue connections need be made from below.

Hotstream floor furnaces are ideal for any home, office, shop, church, cabin, etc. Two or more units provide the flexibility of zone control in larger installations. The 100% pilot control provides full safety protection. Automatic control with automatic room temperature regulation is available economically when desired. The furnace meets the rigid American Gas Association standards and carries the A.G.A. approval seal.

Besides the three-fold economy of cost, installation and operation, Hotstream floor furnaces feature great application flexibility, take up no living space, yet provide a quality of luxurious gas heat unequalled in much more expensive heating systems. Clean, quiet, smokeless, odorless operation; durable, compact, accessible combustion and highly efficient, evenly circulated, healthful warm air heating are assured with the installation of a Hotstream Floor Furnace.

THE ALL NEW HEAT EXCHANGER FEATURING THE ENCLOSED COMBUSTION CHAMBER OF ALUMINIZED STEEL

This heavy durable seam welded unit is made up of the combustion chamber and radiators. The combustion chamber completely encloses the special cast iron drill-port bunsen burner preventing the possibility of combustion gases entering the air stream and assuring uniform firing under all heat from the burned gas and delivers this heat rapidly and efficiently to the air stream over its large heating surface. Scientifically designed embossings strengthen the assembly and eliminate expansion noises. Free and rapid circulation of the heated air provides uniform even heat of exceptionally high quality. The Pyrex glass covered peep hole permits visible check of pilot and burner flame and simplifies lighting.



ONE-YEAR WARRANTY

The combustion chamber, heat exchanger and casing warranted for one year.

FLOOR FURNACE OPERATION

Cool air from floor level is drawn into the furnace thru the outer perimeter of the floor register dropping to the air chamber at the bottom of the furnace thru the channel provided between the casing and the galvanized steel inner jacket. The incoming cool air completely surrounds the heating compartment absorbing any heat escaping therefrom. This restricts heat loss and helps account for the furnaces surprising heating efficiency.

The incoming air then circulates upward being drawn over the entire heating surface of the heat exchanger where it absorbs the liberated heat uniformly. Proper balance prevents excessive heating of air and the possibility of over heating the register. This evenly heated air is then expelled into the room as clean healthful warmth. The heated air circulates over a wide area of the home before returning to the furnace for reheating.

Comfortable room temperatures are thus maintained from floor to ceiling. Operation too is exceptionally quiet as every precaution has been taken to eliminate expansion and combustion noises. The burner is silent and the central pilot location brings it directly under the observation and lighting port providing easy inspection and facilitating lighting.

Furnaces can be purchased with automatic controls or such control can be added at any time. Application of these controls provides complete automatic room temperature regulation.

THE HOTSTREAM HEATER CO.
CLEVELAND 4, OHIO DALLAS 12, TEXAS

INSTALLATION

The Hotstream Gas Floor Furnace is shipped completely assembled with the exception of the draft hood, all ready to install. It is not necessary to remove any parts in order to insert the furnace through the opening in the floor, the recessed control compartment allows the furnace to be installed as a unit.

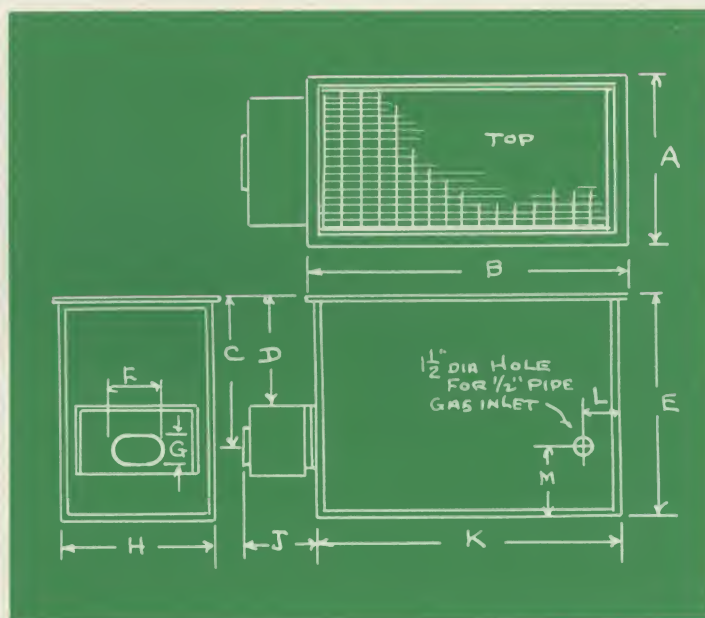
Floor Furnace Roughing-In Dimensions and Specifications

FURNACE MODEL	MODEL "HC"			
	35,000 BTU HC-35	50,000 BTU HC-50	65,000 BTU HC-65	80,000 BTU HC-80
A	20"	24"	28"	32"
B	38"	38"	38"	38"
C	15-1/2"	15-1/2"	15-1/2"	15-1/2"
D	12-5/16"	12-9/16"	14"	14"
E	25-5/8"	25-5/8"	27-5/8"	29-3/4"
F	4-1/4"	4-15/16"	5-13/16"	5-15/16"
G	3-1/4"	4-15/16"	3-1/4"	5-15/16"
H	18-1/8"	22-1/8"	26-1/8"	30-1/8"
J	7-5/16"	9-5/16"	9-5/16"	9-5/16"
K	36-1/8"	36-1/8"	36-1/8"	36-1/8"
L	2"	2"	2"	2"
M	9"	9"	9"	9"
Flue Connection	4"	5"	6"	6"
Gas Connection	1/2"	1/2"	1/2"	1/2"
Equivalent Sq. Ft. Steam Radiation Water Radiation	102 163	145 233	190 303	234 373
Cu. Ft. Space H't'd —20° to 70°F. 0° to 70°F. +10° to 70°F.	2648 3266 4170	3783 4666 5957	4919 6066 7744	6060 7460 9666
BTU input/HR Propane only	35,000	50,000	65,000	80,000
BTU input/HR LP and L Pair	35,000	50,000	60,000	—
Approx. Ship. Wt.	130 Lb.	155 Lb.	195 Lb.	250 Lb.

Pipe connections are easily made as ample wrench space is provided. The air shutter is readily accessible to adjust the primary air, and the gas spud can easily be changed, if necessary, without removing other parts.

The extreme shallowness of the unit eliminates any extra excavation and makes installation a speedy affair.

Installation is easily and quickly made at small expense, giving economy and fast service to the purchaser — plus an assurance of long life and uninterrupted heating comfort.



SELECTING THE PROPER SIZE GAS FLOOR FURNACE

The correct method of selecting the proper size gas floor furnace is to figure the heat loss of the heated space for the conditions prevalent in the particular locality and then select a furnace of heat output equal or larger than this heat loss. However, for a quick estimate, the size of the furnace can be determined from the table. It shows, also, the heating capacity expressed in square foot radiation in case the radiator sizes required to heat the space in question are known.



HOTSTREAM INCINERATORS

Three Models with 1.6 Bushel Capacity



LIFETIME CONSTRUCTION

Width 19 inches, length 19 inches, height 34 inches.
Smoke outlet 6 inches.

HAND FIRED

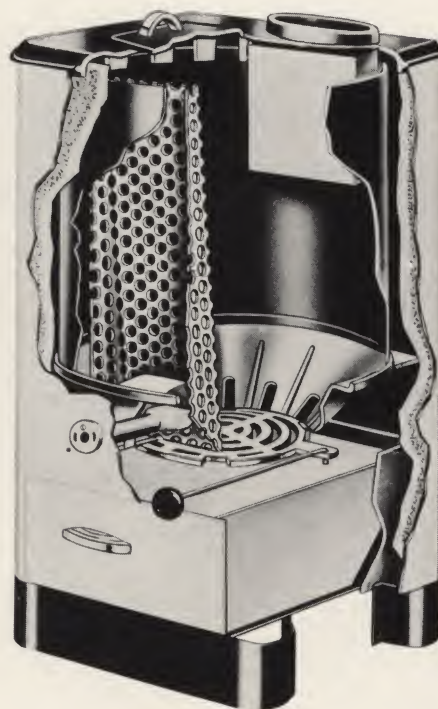
The hand fired incinerator is built for installation in homes and buildings where gas is not available. This hand fired model performs most satisfactorily where there is a reasonable quantity of dry paper, trash, and readily burnable material to be mixed with the garbage. It operates on the down draft principle, by simply lighting at the top with a match after placing the material to be disposed of in the incinerator. Both the oxygen for the burning and the fire at the top are carried down through the material to be disposed of and gradually dehydrate the garbage containing moisture until it reaches the point where it will ignite and burn and be decomposed into fine ash.

LOW FLAME GAS FIRED INCINERATOR

This model is equipped with a low flame gas burner of 2 thousand BTU input per hour. This 2 thousand BTU is applied constantly and is what is known as the slow dehydrating type of garbage disposal. In that the smaller amount of heat applied will complete dehydrate (remove the moisture content in wet garbage) until it is sufficiently dry to ignite and burn to a fine ash. This unit is approved for operation with natural, manufactured, mixed, or liquefied petroleum gases.

HIGH FLAME GAS FIRED AUTOMATIC

The High Flame automatic incinerator with clock, has 15,000 BTU input per hour on high flame, is equipped with automatic pilot to maintain constant ignition, and is the last word in gas fired incinerator equipment. It requires the absolute minimum amount of attention. The material to be disposed of is placed in this unit, and the clock installed on the front is simply turned to the number of minutes desired. It is adjustable from a few minutes up to two hours, depending on the quantity of material to be burned and the amount of moisture it contains. When the dial is set on clock, the necessary amount of gas to produce 15,000 BTU per hour is permitted to flow through burner. It is ignited by a constant pilot. This burner supplies a large amount of heat so that all garbage and refuse is disposed of in a short space of time. When the time selected has elapsed, the high flame burner is automatically shut off allowing only the small pilot to continue to burn. This unit is designed and approved for natural, mixed, manufactured, and liquefied petroleum gases.





HOTSTREAM CONVERSION SET WITH AUTOMATIC PILOT

CONVERTS TANK HEATERS TO SAFE AUTOMATIC OPERATION

FOR GAS-FIRED SIDE-ARM COPPER-COIL WATER HEATERS

Now you can convert side-arm tank heaters to automatic operation. This Automatic Conversion Set contains all parts necessary, at a price within reach of every family budget.

In addition to the adjustable snap-action thermostat, this Hotstream Conversion Set includes an automatic pilot which shuts off gas from main burner if pilot light goes out. Many city ordinances forbid installations of thermostats without automatic pilots. Now you can get efficient automatic operation with safety from almost any side-arm copper coil water heater.

QUICK AND EASY TO INSTALL

Packaged set contains all parts necessary for installation. Complete directions included in each package. Set consists of

- Snap Action Thermostat, adjustable to desired temperature
- Complete automatic pilot, including union
- B Pilot Valve
- Bushing (1/4" x 1/2")
- 2 Elbows 1/4" x 3/8" C C
- Copper tube for line to Automatic Pilot
- Compression fitting for Pilot line

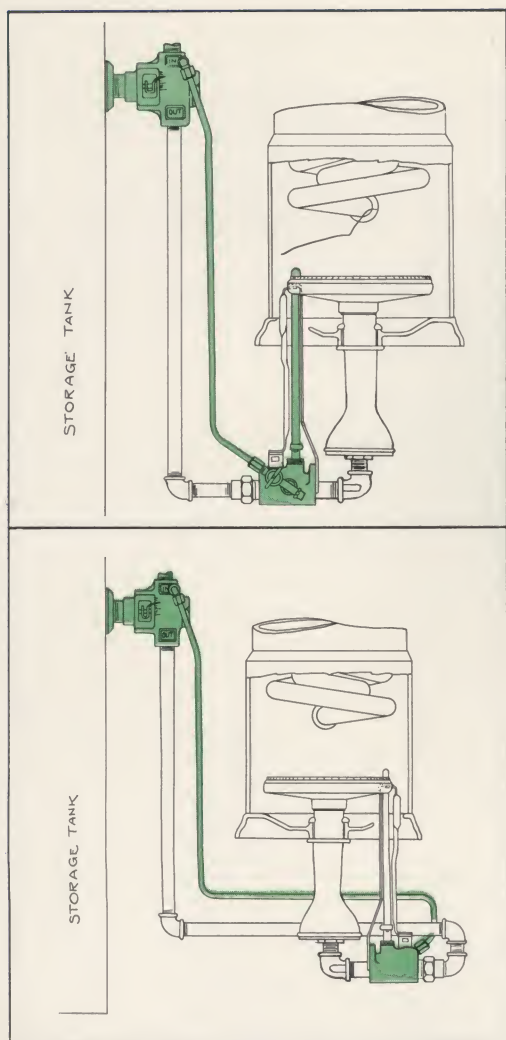
The automatic pilot is a simple mono-therm type of pilot, suitable for installation in vertical position. The power unit is made entirely of heat resistant, electro-polished stainless steel. Valve is easily accessible for cleaning. Permits an unobstructed gas flow. Independent pilot line connection provided. Standard unit measures 6 1/2" from center of gas connection to pilot tip.

For use only with natural, manufactured or mixed gas.

MODEL NO.	LIST PRICE
A-414-1 Conversion Set complete (3/8")\$

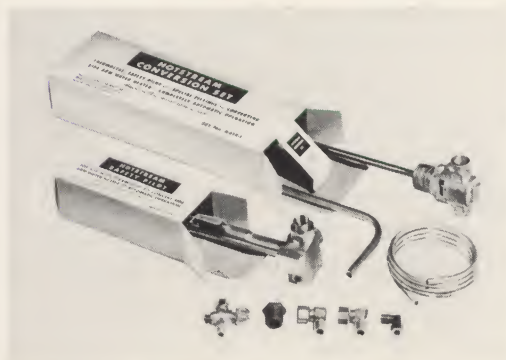
COMPONENT PARTS

3/8-K-1 Thermostat only (3/8")	.....
A-14-2-14 Automatic vertical pilot only (3/8")	.....
Fittings only	.....



Sketch shows how Hotstream Conversion unit is installed. Automatic pilot must be installed vertically—burner and base must have about 1" opening for pilot burner.

COMPLETE UNIT IN ONE PACKAGE



All parts, including complete instructions for installation. Small carton containing safety pilot included in package.

Snap action Thermostat for adjusting to desired temperature.

Automatic Pilot shuts off gas to main burner if pilot goes out.

Easy to install.



HOTSTREAM AUTOMATIC PILOTS

It is the function of an automatic pilot to shut off the gas supply to the burner of the water heater when the pilot flame is extinguished or is insufficient to ignite the main burner. The 100% shut-off type automatic pilot is designed to shut off both the main burner and the pilot burner gas supply when the pilot flame is extinguished or is insufficient to ignite the main burner.

MODEL A-14-2-14 AUTOMATIC PILOT

This automatic pilot is a simple mono-therm type of pilot, suitable for installation in vertical position. The power unit is made entirely of highly heat resistant, electro-polished stainless steel. Valve is easily accessible for cleaning. Permits an unobstructed gas flow. Independent pilot line connection provided. Standard unit measures 6 1/2" from center of gas connection to pilot tip.

For use only with natural, manufactured or mixed gas.

List Price, 3/8" Size \$

THERMOCOUPLE AUTOMATIC PILOTS (100% Shut-Off Type)

The thermocouple automatic pilot is a distinct and necessary safety factor in the operation of water heaters, especially with liquefied petroleum gases. This type of automatic pilot is suitable for use with *all* gases. When the gas supply to the water heater is cut off, or if the pilot flame is extinguished, the electro-magnetic self-generating pilot valve mechanism automatically cuts off the complete gas supply to the heater — both to the automatic pilot and to the main burner. No heater, whether it is manually controlled or automatically controlled is approved for use with liquefied petroleum gas unless it is equipped with this type of automatic pilot. Furnished complete with automatic pilot valve, thermocouple lead, pilot burner, pilot orifice, copper tubing for pilot line and complete instructions. Main "A" valve and pilot "B" valve are integral parts of the valve body assembly.

No. 830 Thermocouple Automatic Pilot, 3/8" or 1/2", List Price..... \$

Figure 1 shows the installation of the Model A-14-2-14 automatic pilot installed on a sidearm copper coil water heater with hole in base located on left hand side of heater. Figure 2 shows the installation of this equipment when the hole is located on the opposite side. Figure 3 shows a thermocouple automatic pilot (No. 830) installed on a sidearm tank heater for manual control. Figures 4 and 5 show this heater hooked up with the No. 830 valve for an automatic control system.

Model No.
A-14-2-14

STORAGE TANK

Fig. 1

STORAGE TANK

Fig. 2

Fig. 3

Fig. 4

Fig. 5



HOTSTREAM Water Heater Controls to "Make It Automatic"

WATER HEATER THERMOSTATS

Hotstream thermostats can be used to convert any side-arm water heater installation to fully automatic, 24-hour hot water service. They will give the comfort, convenience and luxury of higher priced automatic storage systems at but a fraction of their cost.

Hotstream thermostats will pay for themselves repeatedly in fuel saving. In addition, it prevents the overheating of the water supply and eliminates the necessity for remembering to shut off the water heater. Once these thermostats are installed and set for the desired temperature, they require no further attention.

"THROTTLING" THERMOSTATS *

With the "throttling" thermostat, as the water is heated, the burner shuts down to a small pilot flame over the entire burner. This flame (which is adjustable) not only acts as a pilot but keeps the tank hot, making up for heat loss through radiation. The throttling thermostat cannot be adjusted for the burner to go out, using an independent pilot line. Throttling thermostats are made of brass and copper construction. They are extremely durable, simple and efficient. No stuffing box or similar parts are used which might get out or order. They operate perfectly in any position. All parts are precision made. The customer temperature indicator adjustment is calibrated to show exactly what the temperature setting is in degrees F. The No. 2 Model has a diaphragm seal which eliminates friction and makes the thermostat gas-tight. One-inch male shank is standard. For city gases only.

"SNAP-ACTION" THERMOSTATS †

Snap-action thermostats are designed to control the flow of gas to the main burner in accordance with the temperature of the water in the storage tank. The burner of the water heater is completely on or completely off. An independent pilot line is furnished with the snap-action thermostat. This is installed so as to ignite the main burner whenever the thermostat opens and allows gas to flow to the burner. These thermostats are of all brass construction. The working mechanism is so simple in operation that long life is assured. They work with precision and prevent flashbacks. Can be installed very easily. Two models of snap-action thermostats are available. One-inch male shank is standard on all sizes except ¾-T and 1-T, which are 1" Female. ¾ K-1 made either 1" male or ¾" female or ¾" male.

These thermostats are built with an indicator adjustment which will regulate the water temperature as desired. This has a decided advantage over the other types of snap-action thermostats which are "set" at the factory for a certain temperature and which cannot be changed by the customer. A dirt trap is built inside the thermostat. For all gases. Specify gas when ordering.

100% CONTROLS

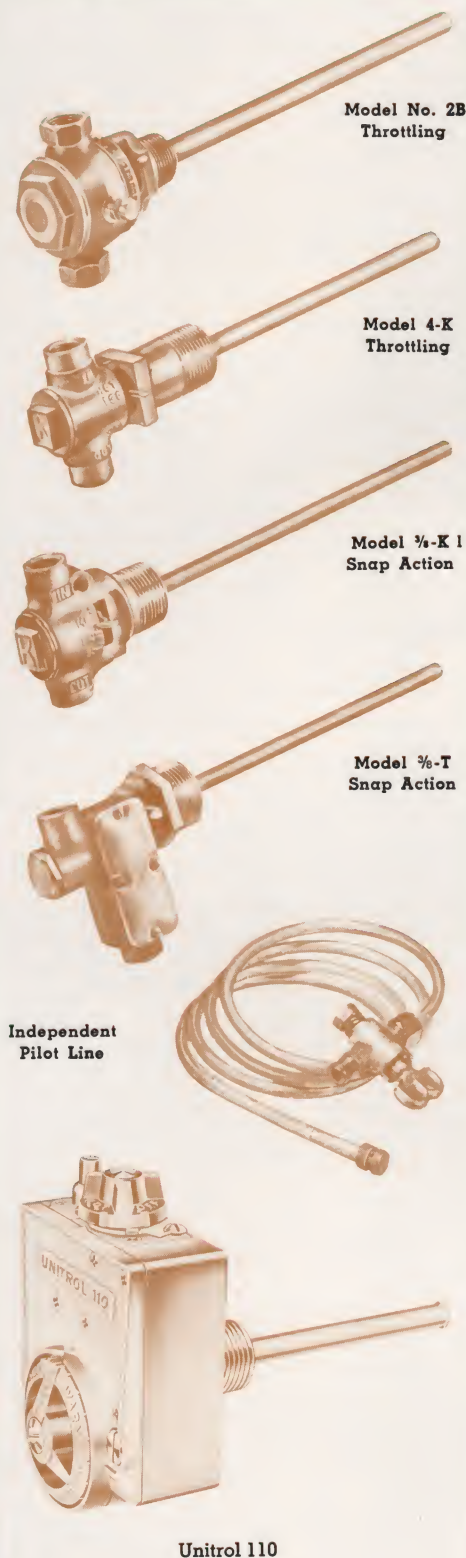
These combination thermocouple automatic pilot and thermostat controls are 100% shut-off type, which automatically shuts off the main burner and pilot in the event of pilot flame failure. For all gases including liquefied petroleum gases.

MODEL NO.	SIZE WATER CONN.	SIZE GAS CONN.	APPROX. CAP. ½" PRESS. DROP NATURAL GAS CU. FT. PER HOUR	APPROX. WEIGHT
*B	1" Male	¾"	25.9	3 ½ lbs.
*B	1" Male	½"	29.9	3 ½ lbs.
*4K	1" Male	¾"	22.6	2 lbs.
†¾" K-1	1" Male	¾"	49.0	1 ¾ lbs.
†¾" T	1" Male	¾"	60.0	2 ½ lbs.
†½" T	1" Male	½"	83.7	2 ½ lbs.
†¾" T	1" Female	¾"	221.8	6 ½ lbs.
†1" T	1" Female	1"	241.1	6 ½ lbs.
Unitrol 110	¾" Male	½"	70.3	3 lbs.
Unitrol 200	¾" Male	½"	71.8	3 lbs.
General G5G	¾" Male	½"	68.8	2 ½ lbs.
Minn. V5124	¾" Male	½"	70.3	3 ½ lbs.
Minn. V5126	¾" Male	½"	70.3	3 ½ lbs.

Nos. B and 4-K can be supplied with Dirt Trap, add
All Snap-Action Thermostats equipped with independent pilot.

100% CONTROLS

Unitrol 110 - 200 & 400, — General G5G, — Minneapolis V5124 & V5126 complete with thermocouple pilot burner and lead pilot orifice and copper tubing for pilot line.



"Make It Automatic" Accessories

HOTSTREAM Y-THERMOWELL

The Ideal Thermostat Mounting



The standard "high-low" tank provides no suitable mounting for a thermostat. The Hotstream Y-Thermowell solves the problem. It makes the installation of a thermostat very easy by eliminating many fittings. The thermostat screws into the 1" female opening of the Y-Thermowell. The copper tube of the thermostat extends into the storage tank. The 1" male end of the Y-Thermowell is threaded into the lower tapping of the storage tank. The water heater is connected to the 3/4" or 1" female tapping.

This mounting fitting is also recommended to be used for installing "TP" Safetystats to make semi-automatic system. (See page 51.) Weight 3 lbs. List (Packed 2 to a carton) each 1" M x 3/4" F x 1" F or 1" M x 1" F x 1" F

INDEPENDENT PILOT LINE

Recommended for use wherever a snap-action thermostat is used. Should be installed so that the flame never plays directly on the copper coils. Supplied as standard equipment with snap-action thermostats. Consists of four feet of 1/4" O.D. aluminum tubing with blue flame lava tip, brass lava tip holder with primary air inlet, pilot gas valve with 1/8" male pipe thread connection.

List Price\$; Lava Tip (for repairs)List Price \$

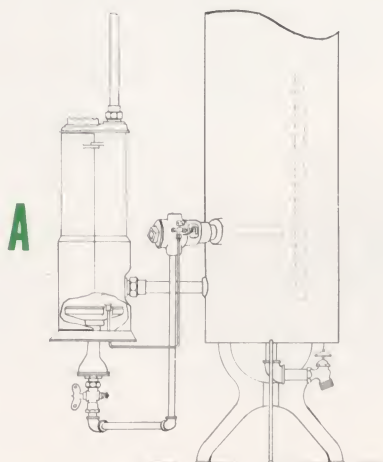
MAIN GAS SHUT OFF VALVE — "A"



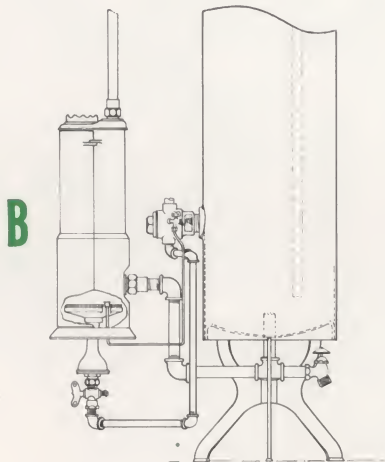
Main Gas shut off Valve A.

Furnished either with male 1/2" IPS or for copper tube connection.

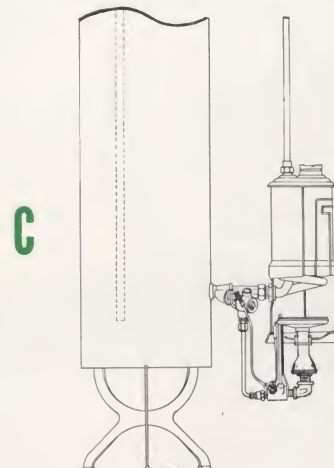
List Price\$



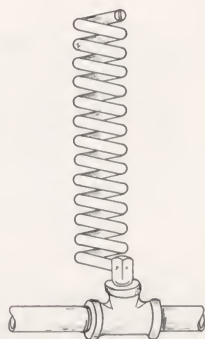
Installation of thermostat on boiler equipped with a tapping in the side.



Installation of thermostat on boiler with no side tappings, using standard pipe fittings.



Installation of thermostat on boiler with no side tapping, using Y-Thermowell.



WATER HAMMER SHOCK ABSORBER

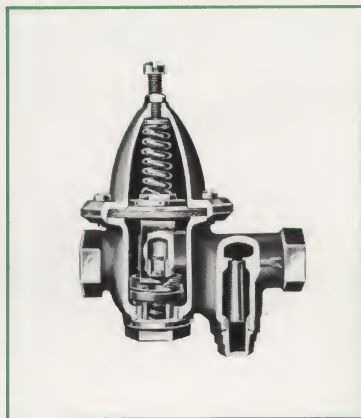
This device absorbs shocks in water pipes caused by the buildup of pressure when the water escape is suddenly shut off, as very often happens when there are quick compression faucets, flush-o-meters, solenoid valves in automatic washing machines and dishwashers and, in conjunction with any other valves which close suddenly.

Quick-closing water valves can build up a hammer amounting to 450 to 500 pounds, and this takes place before the relief valve would have a chance to release this excessive pressure. Therefore, the air-hammer shock absorber eliminates the shock to your water system and prevents damage to the tank in your water heater, and to all the rest of your plumbing.

Size: Overall length 10" — Diameter 2 1/4" — 1/2" male water connection.



WATER PRESSURE REGULATOR AND STRAINER COMBINATION



High water pressures from mains should be controlled to prevent placing undue strain on piping, boilers, etc. By controlling this pressure the water flow is reduced to a soft, gentle, yet full flow from the faucets, thereby making it economical both from the standpoint of property protection and conservation of water supply. For the average house, a pressure of 45 pounds is sufficient to assure ample volume, perfect safety and economy. It

is adjustable to a wide range of delivery pressures. A strainer is built into the regulator. Can be used on Hot or Cold water, light oil or air.

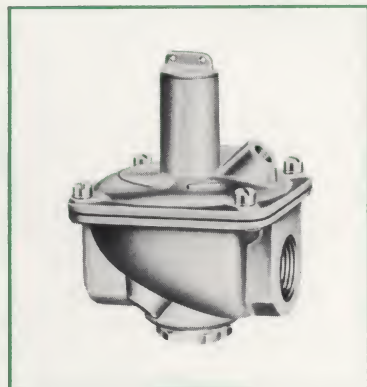
No.	Size	Length	Height	Weight
135	1/2"	5"	6 1/2"	5 Lbs.
135	3/4"	5 1/2"	7"	6 Lbs.
135	1"	6"	7 1/2"	8 Lbs.

PRESSURE TEST GAUGE

It is good practice to use a Pressure Test Gauge with the Regulator and Strainer. We also advise the use of a Pressure Relief Valve to protect a hot water tank when reducing valve is used, as a reducing valve is in effect a check valve. Connection is 1/4"

No. 23 Pressure Test Gauge, 0 to 200#, 2 1/2" DialList Price

LOW GAS PRESSURE REGULATOR

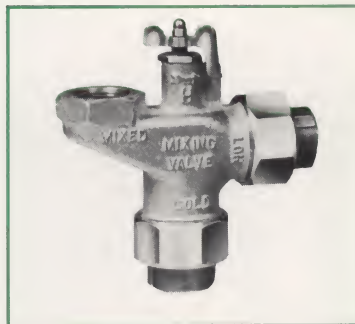


Where gas pressure fluctuates, we recommend the use of a Gas Pressure Regulator, which should be installed in the gas line just ahead of the appliance. Since all gas burning appliances depend for their efficiency upon even and constant gas pressure, a pressure regulator is practically a necessity. The Gas Pressure Regulators supplied by Hotstream are extremely simple and cannot get out of adjustment. Factory setting 3 1/2" pressure.

Size	Cu. Ft. per Hr. 1" Pressure Drop	Weight
3/8"	93	1 lb.
1/2"	168	2 1/2 lbs.
3/4"	323	4 lbs.
1"	530	7 lbs.
1 1/4"	594	7 lbs.

Profit Building Accessories

MIXING VALVE — ADJUSTABLE



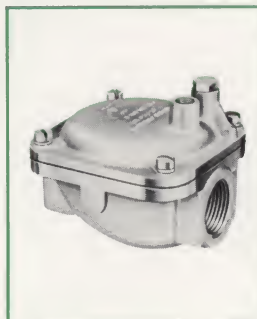
Reduces the danger of scalding and conserves hot water supply. Automatically mixes cold with hot water as it is drawn. Particularly recommended for installations which require excessively high water temperatures for dishwashing, sterilizing or any commercial purpose. In such cases water at moderate temperatures is delivered to wash-rooms and showers. Heavy bronze construction

throughout. Specially fabricated corrosion-resisting thermostat, assuring long life of active, dependable service. Regularly furnished with 140° setting. Has range of adjustment from 120° to 165°. All I.P.S. Female Connections.

See Page 17, Figure 5.

No.	Size	Length	Height	Weight
VD-203	3/4"	3"	4 1/2"	3 3/4 Lbs.

B-101—DIAPHRAGM VALVE

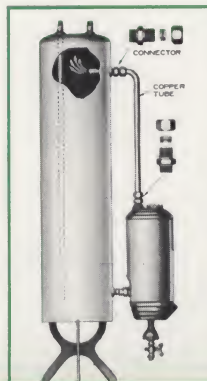


On-off type — controlled by thermostat in bleed line.

Orifice removable — size stamped on hex nut.

IPS	Gas Cap. Cu. Ft. 1 hr. 0.5" drop	Std. Wt. each
3/4"	435	1 1/2
1"	590	5

"JIFFEE" CIRCULATORS



The "Jiffie" Circulator makes the installation of a tank heater neat and easy—it promotes faster circulation, delivers hot water to center of tank near the top, will not rust, does away with leaky joints, is easy to remove and can be installed in ten minutes. It is made of a 7/8" O.D. 18 gage copper tube with two brass unions.

Quantity	Weight
12 to a carton	26 lbs.



HOTSTREAM

DIELECTRIC UNION

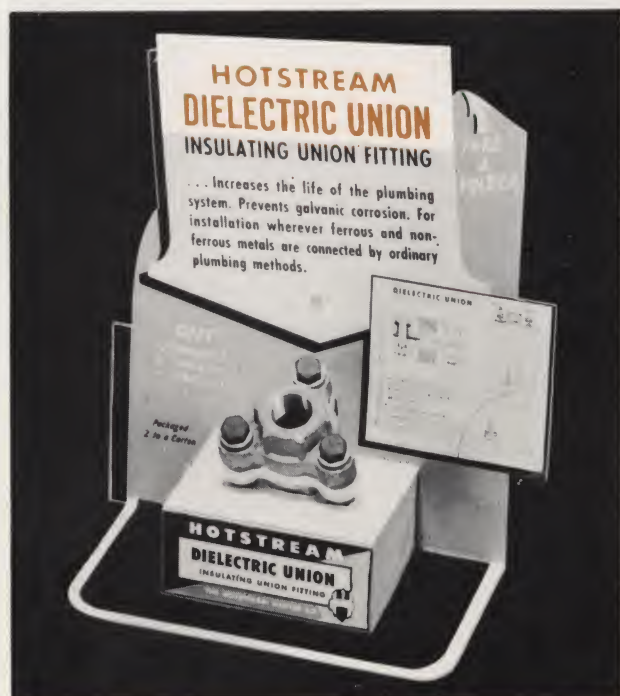
INSULATING UNION FITTING

The Hotstream "Dielectric Union" is designed to increase the life of the plumbing system by eliminating electrolytic corrosion where ferrous and non-ferrous metals are joined. It will help prevent the damaging effect of electrolysis upon galvanized storage tanks and nipples where connected with copper plumbing. It should be used wherever two dissimilar metals are joined by usual plumbing methods.

The "Dielectric Union" consists of two specially-designed pipe flanges — one made of iron — the other of bronze. Both parts of it are thoroughly insulated from each other by a carefully selected non-conductor gasket. The connecting bolts are insulated from the bronze section of the union by non-conductor bushings. All ferrous parts of the "Dielectric Union" are rust-proofed to insure longer service.

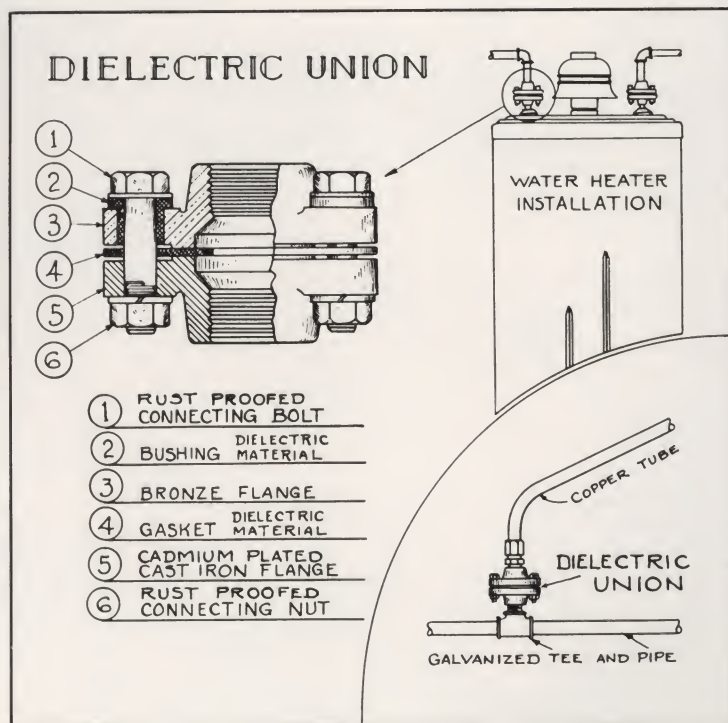
Installation is both simple and quick and eliminates the need for a standard gasket union. The iron section is connected to the galvanized pipe fittings of the water heater or any other ferrous unit, while the bronze section is connected to the copper tube fittings. Installed in this way, the "Dielectric Union" completely breaks the electrical circuit between the galvanized iron and the copper and therefore prevents electrolysis.

The accompanying illustration shows a typical installation of an automatic water heater using the "Dielectric Union." Many installations would require more than one "Dielectric Union" since one should be installed at each connection of dissimilar metals. This will give the entire plumbing system maximum protection from corrosion.



This colorful counter display is available without charge upon request. A specially designed pocket is provided for literature. A $\frac{3}{4}$ " Dielectric Union fits die-cut openings on counter table of display board.

SIZE	WEIGHT (PACKED 2 TO A CARTON)	LIST PRICE PER UNION
$\frac{1}{2}$ " Female I.P.S.	2 Lbs.	\$
$\frac{3}{4}$ " Female I.P.S.	3 $\frac{1}{2}$ Lbs.	
1" Female I.P.S.	5 Lbs.	
1 $\frac{1}{4}$ " Female I.P.S.	6 $\frac{1}{2}$ Lbs.	
2" Female I.P.S.	20 Lbs.	
3" Female I.P.S.	39 Lbs.	

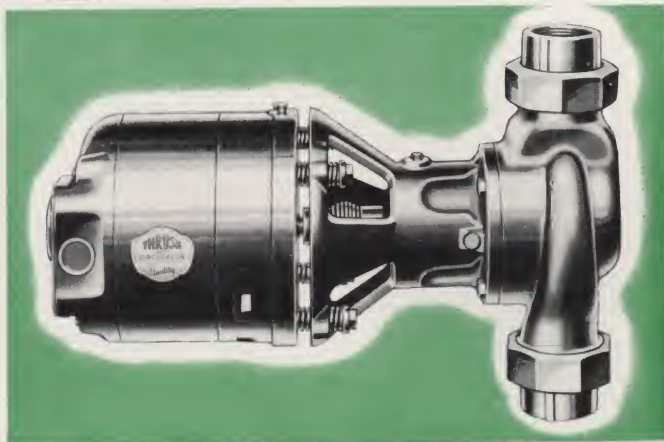




HOTSTREAM

Profit Building Accessories

HOT WATER CIRCULATOR PUMP



Multi-position makes installation easy on all types of jobs. Can be installed in horizontal or upright pipe line — flow or return.

THRUSH Horizontal Water Circulator is new! But it's the same fine, efficient time-tested circulating pump you have always used. The principal difference is the motor suitable for horizontal operation. Some heating engineers prefer units for horizontal installation, especially for conversion work, where existing pipes may be used more economically. This Circulator is quiet, and stays quiet in operation for years. Spring coupling eliminates vibration and service troubles. Lubrication is sealed in. Scientific design of impeller and impeller chamber permit thermal circulation in case of power failure. The Thrush Circulator used in combination with the Thrush Flow Control Valve, provides forced circulation of hot water heat and eliminates wasteful overheating. The ideal installation is the complete Thrush Flow Control System which automatically assures continuous radiant heat and a plentiful supply of domestic hot water the year around from the same heating boiler.

OIL SEALED . . . with ample reservoir of oil. No grease cup.

GROOVED BEARING pumps oil over bearing surfaces constantly.

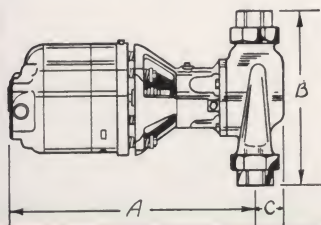
AUTOMATIC OVERLOAD PROTECTION in motors. Motor only, requires occasional lubrication.

PATENTED, flexible spring coupling assures perfect alignment between motor and impeller shaft.

OIL AND WATER SEALS are carbon rotating on special metal, ground and lapped to assure tight seals and long, uninterrupted service.

QUIET. Spring mounting of motor is sturdy, permanent . . . won't lose its flexibility.

EASY TO INSTALL with unions (on all popular sizes). Side electric outlet on motor.



ROUGHING-IN DIMENSIONS

No.	Size Connections	A	B	C
14H	1" Unions	15"	9 3/4"	1 1/4"
14AH	1 1/4" Unions	15"	10 1/4"	1 3/8"
15H	1 1/2" Unions	15 1/8"	10 7/8"	1 1/2"
22H	2" Unions	16 3/4"	11"	1 7/8"
22 1/2 H	2 1/2" Flanges	17 1/8"	11 3/8"	3 3/8"
23H	3" Flanges	17 1/8"	11 3/8"	3 3/8"

HORIZONTAL WATER CIRCULATORS

IRON BODY					
No.	Size Connections	Shipping Weight	†Capacity Two Pipe System	†Cap. One-Pipe System	
				Adjustable	Non-adjustable
3/4" H	3/4" Flanges	32 lbs.	650 sq. ft.	500 sq. ft.	400 sq. ft.
1" H	1" Flanges	32 lbs.	750 sq. ft.	600 sq. ft.	500 sq. ft.
1 1/4" H	1 1/4" Flanges	31 lbs.	1100 sq. ft.	950 sq. ft.	850 sq. ft.
1 1/2" H	1 1/2" Flanges	31 lbs.	1100 sq. ft.	950 sq. ft.	850 sq. ft.
15 H	1 1/2" Unions	32 lbs.	1500 sq. ft.	1100 sq. ft.	950 sq. ft.
22 H	2" Unions	39 1/2 lbs.	2200 sq. ft.	1500 sq. ft.	1100 sq. ft.
22 1/2 H	2 1/2" Flanges	77 lbs.	2800 sq. ft.	1800 sq. ft.	1400 sq. ft.
23 H	3" Flanges	76 lbs.	3200 sq. ft.	2000 sq. ft.	1500 sq. ft.
BRONZE BODY					
14 H	1" Threaded	32 lbs.	600 sq. ft.	400 sq. ft.	300 sq. ft.
14 AH	1 1/4" Threaded	32 lbs.	750 sq. ft.	500 sq. ft.	400 sq. ft.

Iron Flanges for 3/4" H, 1" H, 1 1/4" H, 1 1/2" H Circulators — Per Set of 2 (Flanges only)
Shipping weight per set — 2 1/2 lbs.

VERTICAL WATER CIRCULATORS

IRON BODY					
No.	Size Connections	Shipping Weight	†Capacity Two Pipe System	†Cap. One-Pipe System	
				Adjustable	Non-adjustable
13V	3/4" Unions	44 lbs.	500 sq. ft.	400 sq. ft.	300 sq. ft.
14V	1" Unions	44 lbs.	750 sq. ft.	600 sq. ft.	500 sq. ft.
14AV	1 1/4" Unions	45 lbs.	1000 sq. ft.	950 sq. ft.	850 sq. ft.
15V	1 1/2" Unions	48 lbs.	1500 sq. ft.	1100 sq. ft.	950 sq. ft.
22V	2" Unions	52 lbs.	2200 sq. ft.	1500 sq. ft.	1100 sq. ft.
22 1/2 V	2 1/2" Flanges	80 lbs.	2800 sq. ft.	1800 sq. ft.	1400 sq. ft.
23V	3" Flanges	79 lbs.	3200 sq. ft.	2000 sq. ft.	1500 sq. ft.
BRONZE BODY					
14V	1" Threaded	44 lbs.	600 sq. ft.	400 sq. ft.	300 sq. ft.
14AV	1 1/4" Threaded	45 lbs.	750 sq. ft.	500 sq. ft.	400 sq. ft.

HORIZONTAL HI-HEAD WATER CIRCULATORS

AVAILABLE WITH IRON BODY, ONLY			
No.	Size Connections	Shipping Weight	†Capacity At 8 Ft. Total Head
1" HH	1" Unions	33 lbs.	800 sq. ft.
1 1/4" HH	1 1/4" Unions	33 lbs.	900 sq. ft.
1 1/2" HH	1 1/2" Unions	33 lbs.	1050 sq. ft.

All Horizontal and Vertical Circulators are equipped with standard 115V, 60 cycle 1 ph. A.C. motors. Special motors net extra.
†Capacities of Thrush Circulators, expressed in sq. ft. of direct radiation, are based on 200 BTU emission.
Ratings apply only to Circulators having 1725 RPM Motors, A.C. or D.C.
All A.C. Circulator Motors are equipped with built-in Automatic Thermal Overload Protectors.

K-3B SOLENOID GAS VALVE



Positive shutoff with gas pressure on top of seat. Valve closes if current fails. Humless. Low current consumption. Metal and soft seat. AGA and UL approved. FM approved. K-3A in sizes 3/8" to 3/4" inclusive.

APPLICATION. For all gas-fired heating equipment. Warm air furnace, gas-fired boiler, industrial furnace, conversion burner, etc., in domestic, commercial, and industrial installations.

SPECIFICATIONS

MANUAL OPENING

Type: Packless — Normally closed — Current failure.

Service: All gases, including LPG and sour gas standard.

Pressure: 1/2 psi, maximum. AGA rating.

Seat: Soft in sizes 3/8", 1/2", and 3/4". Metal in sizes 1" and 1 1/4".

Body: Aluminum. Sizes 3/8", 1/2", 3/4", 1" and 1 1/4".

Electrical: 2-wire control circuit. Replaceable coil. Jacket rotates 360° for easy installation. No. 225 solenoid with integral junction box and 6" leads. No. 180 solenoid furnished with 1/2" conduit connection and 18" leads.

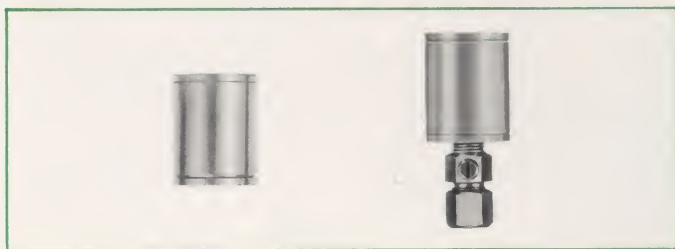
Y-77 GAS HEATING PACKAGE SET

This set includes magnetic gas valve, room thermostat, transformer and 25 feet of cable. Especially designed for quiet operation and control of floor furnaces, conversion burners, gas-fired boilers, etc.
Y-77 Package Set (for all gases except LP gas), List Price \$
Y-78 Package Set (for LP gas), List Price



HOTSTREAM Profit Building Accessories

PILOT FILTER — DF — DF-1



Hotstream pilot dust filter for domestic gas appliances, using constant-burning pilot for natural, mixed and liquified petroleum gases. Available with or without flow adjustment valve.

Its compact design allows ease of installation in any position in a limited space.

Removes foreign material from the gas which eliminates pilot outage. Capacity — 2.75 cu. ft. per hour.

1/8" N.P.T. Female inlet x 1/8" Female outlet.

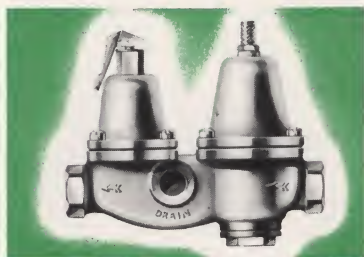
BX-69 GAS ACTUATED PACKAGE SET No Outside Current is Required for Operation



No other control system offers all these outstanding advantages. Accurate room temperature control, silent operation, no outside current required (thermocouple pilot generator provides necessary operating current) — integral automatic pilot (upon pilot flame failure, operating current ceases and valve closes). This set includes gas valve, pilot generator, room thermostat with night shut-off, with thermometer and 25 feet of thermostatic cable.

BX-69C Package Set (for city gas only), List Price \$

HOT WATER HEATING REGULATOR



Combination lever-type pressure relief valve, water pressure regulator and strainer.

The reducing valve employs a new principle of operation which provides an unusually large capacity for quick feeding. An extra large area fine mesh copper screen strainer surrounds the seat.

Due to its construction, the relief valve provides protection not only against excess pressure but it can also discharge steam pressure should the boiler temperature reach the pressure boiling point. Set to deliver 12 lbs. to system, and relieve at 30 lbs. 1/2" IPS.

No. 45A List Price 1/2"\$

LOW VOLTAGE TRANSFORMER



These transformers are of the highest quality, approved by Underwriters'. They are designed to provide low voltage and have been matched to the valve use and rating of the magnetic gas valves. They are precision built to insure full insulation, tight laminations, and quiet operation. The unit is mounted on a standard outlet box plate with the primary leads extending through the plate so that installation can be made easily. Type T-O

has 25 VA capacity. Open circuit voltage is 24 volts (secondary). Primary voltage is 110, 50 or 60 cycle.

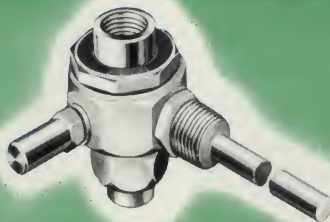
Type TO-2 (for 1/2" to 1" magnetic gas valve),

ROOM THERMOSTAT — T-70



Operates on low voltage. Represents the ultimate in beauty and compact design, yet includes every advanced mechanical feature to provide the most accurate control of room temperature. With its stainless metal cover mounted on an ivory plastic base, this thermostat blends with any interior decorating scheme. This model is bi-metal type, with snap-action contacts and easy to set drum dials. Equally sensitive to radiant or convected heat since the metal cover is an integral part of the temperature sensitive element. A covered room tem-

perature dial can be easily read, with two degree graduations. Temperature differential of 1 1/4 degrees F. Scale range from 50 to 90 degrees F. Maximum electrical rating at 24 volts is 2 amps.



HOTSTREAM "TP" SAFETYSTAT High Temperature Cut-Off

In many sections of the country the necessity for complete safety in conjunction with the use of Automatic Storage Water Heaters is recognized to the extent whereby City Ordinances make it compulsory for these heaters to be equipped with Temperature Gas Cut-Offs — like the Hotstream "TP". Every gas-fired water heater should be equipped with one.

If for any reason, the water becomes overheated, a dangerous hazard (that of explosion) is created. Only by cutting off the source of heat when excessive temperature occurs, is real safety assured.

HOW THE "TP" OPERATES

The "TP" Safetystat is set to operate at a predetermined temperature of 200° at the factory. It can, however, be furnished at any temperature desired. It automatically shuts off the gas supply to both pilot and main burner before the water temperature can reach the danger point of 212°, thereby preventing excessive pressures caused by overheating.

When the water cools to normal operating temperature (below 190° at which the "TP" Safetystat is set) then the gas supply can be re-established by merely pushing in the plunger. Gas can then be passed to the burner, the plunger staying in and holding the valve open until such time as excessive temperatures are again built up. All that is necessary is to remove the screw cap, press the plunger and replace the screw cap.

When the "TP" Safetystat is used there is no leakage of water, nor is it ever necessary to replace any fusible metal or other parts to establish the supply of gas. It is not even necessary to shut off either the gas or water supply to the heater.

The "TP" Safetystat control should be located as shown in either of the positions, figure 1. On large volume jobs it can be located at the top of a vertical boiler or in the end of a horizontal boiler.

THE "TP" SAFETYSTAT USED AS SEMI-AUTOMATIC CONTROL

Where it is desired to operate a heater semi-automatically, the "TP" Safetystat control is used in place of a regular thermostat, and is set at the factory to cut off at 120° or any other temperature desired. A semi-automatic system can be built up through the use of any Hotstream tank heater, to which is attached the "Y-Thermowell" and "TP" Safetystat control. This unit is then connected in the regular manner to the range boiler. When the water in the storage tank reaches the pre-determined temperature setting, the gas supply will automatically shut off, saving the consumer the expense of continuous operation. To re-light heater, all that is necessary is to push in plunger, which stays in, keeping the valve open until the temperature of the water in the tank has again reached the pre-determined setting. This type of semi-automatic control is especially desirable where high priced gases are used.

Gas connection 3/8" or 1/2" female inlet and 3/8" union female outlet. Water connection 1/2" male or female. Approximate shipping weight 1.5 lbs. Btu Rating nat. gas 136900; mfd. gas 92500. "TP" Safetystat . . . List Price

No.	BTU Rating	Type	No.	BTU Rating	Type
53		P	40	425,000	APT
53-L		PL	40-X	525,000	APT
N-54	125,000	PT	N40-L	850,000	APTL
N-54-L	125,000	PTL	N40-XL	850,000	APTL
30		DP	11		P
30-L		DPL	22	100,000	PT
31	390,000	DPT	A44	200,000	APT
31-L	390,000	DPTL	A44-L	200,000	APTL
31-S	150,000	DPT	A44-X	250,000	APT
31-SL	150,000	DPTL	A44-XL	250,000	APTL

P — Pressure, T — Temperature, D — Diaphragm Type
L — Lever Handle, S or X — Temperature Extension
A — Fully Automatic Self-Closing.

All relief valves are 1/2" and adjustable from 75 to 150 lbs., except #40 — N40 series 3/4", N40-L, N40-XL which are A.S.M.E. No. 53 adjustable from 25 to 150 lbs.

#31-SL available — 3/4" as #131-SL — 375,000 BTU Vacuum Relief Valves — #36.

RELIEF VALVES

Relief valves should be installed on all hot water supply storage tanks or range boilers, whether automatic or non-automatic. Wherever a check valve or pressure regulator is used on the cold water supply line, both pressure and temperature relief are essential to safety from explosion. Should pressure in the water heater build up beyond the point at which the relief valve is set, the relief valve will automatically relieve this pressure. Relief Valves should be set at 20 lbs. above city water pressure. Are also set for temperature relief at 210°.

Fusible Plugs for #54

#31 and 31L

For 31SL or 31XL



53-L



N-54



30



31-L



31-S



N-40-L



HOTSTREAM MAGNESIUM ROD

SAVES ANY STEEL GALVANIZED TANK FROM CORROSION!

When two different metals are exposed to a corrosive solution (like average tap water) electrolysis causes the baser metal to oxidize (corrode) thus protecting the nobler metal by consuming the free oxygen in the water. This principle has been put to work in the Hotstream Magnesium Rod — made of a special magnesium alloy which actually "sacrifices" itself to protect the galvanized lining and steel in your water tank. Moreover it helps to prevent rust from the tank or your hot water lines.

Tank protection is assured for the effective life of the Magnesium Rod. It is easily installed at the hot water outlet, and does not affect the efficient operation of your tank in any way other than to protect it. It should be inspected every year or so—depending on amount and nature of water used.

HOTSTREAM MAGNESIUM ROD GIVES YOU ALL THESE FEATURES

- 1 Iron core running full length prevents "necking off" of sections, thus assuring full protection over a longer life.
- 2 No weak points in structure — Hotstream Magnesium Rod is sturdily built from top to bottom.
- 3 Hot water outlets designed to offer no resistance to free flow of water.
- 4 Simple construction consisting of only ONE fitting in addition to rod element.
- 5 Constructed to insure durable positive metal-to-metal contact with tank (necessary for protective action) throughout life of rod.
- 6 Full range of sizes.

Prices for Magnesium Rods vary according to rod size and length. There are a few territories with a type of water which causes the magnesium rod to be detrimental in various ways. In areas where a Magnesium Rod has a bad effect on the water, such as odor, producing grit, or sludge accumulations in the bottom of the tank, we suggest that to prevent corrosion, rusty water or liming, that Micromet be used. See Page 53.



Automatic Storage Heaters — extra
for Magnesium Rod LIST

All sizes to and including 40 gallon

All sizes over 40 gallon

MAGNESIUM RODS FOR STANDARD RANGE BOILERS

NO.	ROD SIZE	ROD LENGTH	TYPE	LIST PRICE
1	3/4 "	56"	Solid One Piece	\$
2	1 "	56"	Solid One Piece	
3	3/4 "	38"	Solid One Piece	
4	3/4 "	42"	Flexible Sections	
Above Rods include nipple and special fitting for installation in hot water outlet.				



HOTSTREAM Micromet and Micromet Feeders

MICROMET MEANS

RUSTFREE, CLEAR HOT WATER

from **CLEAN TANKS AND PIPES**

*for only a few cents a week!**



1 LB. PKG.



3 LB. PKG.



8 LB. GIANT
ECONOMY SIZE

THESE ARE LIST PRICES

Here is the solution to the problem of lime scale, corrosion and "rusty" water in hot water lines. Extensive tests have proved that a small quantity of MICROMET, added monthly to a MICROMET FEEDER in the line, will eliminate objectionable and damaging effects of hard mineral or soft acid waters. The MICROMET FEEDERS are specially designed to make water treatment easy, effective and inexpensive. The combination of MICROMET with a MICROMET FEEDER now brings the control of aggravating water conditions within the reach of every budget.

Micromet is a slowly soluble food-grade phosphate which is highly effective for controlling red water, lime scale and corrosion. It is recommended for household water systems to prevent scale in water heaters, to control corrosion in heater tanks and water lines, and to prevent "red water" and iron stains due to dissolved iron in private well water systems.

To prevent lime scale an initial charge of 1 pound is required for each 6,000 gallons of water used per

month. To stop "red water" and to control corrosion an initial charge of 1 lb. of Micromet per 3,000 gallons of water used per month is generally recommended. Since the Micromet dissolves at the rate of about 25 percent per month, it is necessary to recharge the Micromet feeder each month to replenish the $\frac{1}{4}$ of the original charge which has been dissolved and fed into the system.

In order to protect a water heater from corrosion or scale, the feeder should just be installed on the inlet line to the heater. Where iron is present in a private well water supply the feeder must be installed before the pressure tank.

**MICROMET IS AVAILABLE IN THE
SIZE PACKAGES SHOWN ABOVE.**

MICROMET FEEDERS

These Feeders are sized to hold the required initial charge of Micromet and are so constructed that the Micromet treatment is introduced into the water system in the best possible and easiest manner. The No. 6-G Micromet Pump Feeder is designed so that a small amount of the Micromet solution is fed into the well water system pump at the suction tapping, whereas the No. 2 Micromet Feeder is designed to introduce treatment at the exact point in the system where it is installed.

Large commercial Feeders are available in 20 lb., 50 lb. and 100 lb. sizes.

Write to Calgon, Inc., Micromet Division, 323 Fourth Ave., Pittsburgh 30, Pa. for full details and resale arrangements.

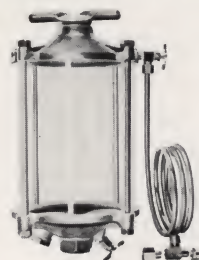


No. 2 Micromet Feeder

For use in homes having city water and in homes having deep well reciprocating pumps.

Capacity: 2 lbs. Height: 12 in.

Complete instructions packed with each Feeder.



No. 6-G Micromet Pump Feeder

For use with jet pumps and all shallow well pump systems. Will hold any charge up to 6 lbs. of Micromet.

Weight: 11½ lbs. Height: 12 in.

Complete instructions packed with each Feeder.



HOTSTREAM

Useful and Helpful Information for the Estimator

Cost of Heating 100 Gallons of Water at Various Efficiencies with 60° and 100° Temperature Rise, Using All Types of Fuel.

COST PER 100 GALLONS OF HOT WATER

EFFICIENCIES	40%	50%	60%	65%	70%	75%	85%	90%
Degrees Rise	60° 100°	60° 100°	60° 100°	60° 100°	60° 100°	60° 100°	60° 100°	60° 100°
Dollars Per Ton								
Coal 12	.053 .089	.043 .071	.036 .060	.032 .055				
14,000 BTU	.044 .074	.035 .059	.030 .050	.027 .045				
per lb.	.035 .059	.029 .048	.024 .040	.021 .036				
6	.027 .045	.022 .036	.018 .030	.016 .027				
4	.018 .030	.014 .024	.012 .020	.010 .018				
Coal	.030 .050	.024 .040	.020 .033	.019 .031	.017 .029			
Stoker	.025 .042	.020 .033	.017 .028	.016 .026	.014 .024			
12,500 BTU	.020 .033	.016 .027	.013 .022	.013 .021	.011 .019			
per lb.	.017 .029	.014 .023	.011 .019	.011 .018	.010 .017			
3 1/2	.015 .025	.012 .020	.010 .017	.009 .015	.008 .014			
3	.013 .021	.010 .017	.008 .014	.008 .013	.007 .012			
2 1/2								
Coke	.054 .090	.043 .072	.037 .061	.034 .056				
11,500 BTU	.043 .072	.035 .058	.029 .049	.027 .045				
per lb.	.038 .063	.030 .050	.026 .043	.023 .039				
7								
Cents Per Gal.								
Distillate Oil	.113 .188	.090 .150	.075 .125	.069 .115	.064 .107	.060 .100		
19,750 BTU	.094 .156	.075 .125	.062 .104	.057 .096	.054 .090	.050 .083		
per lb.	.084 .141	.068 .113	.056 .094	.052 .086	.048 .081	.045 .075		
133,000 BTU	.075 .125	.060 .100	.050 .083	.046 .077	.043 .072	.040 .067		
per Gal.	.066 .109	.053 .088	.044 .073	.040 .067	.038 .063	.035 .058		
7								
No. 2 Oil	.090 .150	.072 .120	.060 .100	.055 .092	.052 .080	.048 .080		
19,450 BTU	.081 .135	.065 .108	.054 .090	.050 .083	.046 .077	.043 .072		
per lb.	.072 .120	.058 .096	.048 .080	.044 .074	.041 .069	.038 .064		
138,500 BTU	.063 .105	.050 .084	.042 .070	.039 .065	.036 .060	.034 .056		
per Gal.	.054 .090	.043 .072	.036 .060	.033 .055	.031 .052	.029 .048		
6								
No. 5 Oil	.067 .112	.054 .090	.045 .075	.041 .069	.038 .064	.036 .060		
19,000 BTU	.050 .084	.040 .067	.034 .056	.031 .052	.029 .048	.027 .045		
per lb.	.042 .070	.034 .056	.028 .047	.026 .043	.024 .040	.022 .037		
148,500 BTU	.034 .056	.027 .045	.022 .037	.021 .035	.019 .032	.018 .030		
per Gal.	.025 .042	.020 .034	.017 .028	.016 .026	.014 .022	.013 .022		
4								
Dollars Per M Cu. Ft.								
Natural Gas	.125 .208	.100 .167	.084 .139	.077 .128	.072 .119	.067 .111	.059 .098	
1,000 BTU	.100 .167	.080 .133	.066 .110	.061 .102	.057 .095	.053 .089	.047 .078	
per Cu. Ft.	.089 .146	.070 .117	.058 .097	.054 .090	.050 .083	.047 .078	.041 .068	
.60	.075 .125	.060 .100	.050 .083	.046 .077	.043 .071	.040 .067	.035 .059	
.50	.063 .104	.050 .083	.042 .070	.038 .064	.036 .060	.033 .055	.030 .049	
.40	.050 .083	.040 .067	.034 .056	.031 .051	.029 .048	.026 .044	.024 .039	
Mixed Gas	.162 .269	.130 .216	.108 .180	.100 .166	.093 .154	.086 .144	.076 .126	
850 BTU	.147 .245	.118 .196	.099 .164	.091 .151	.084 .140	.079 .131	.069 .115	
per Cu. Ft.	.118 .196	.094 .157	.079 .131	.072 .120	.067 .112	.062 .104	.055 .092	
.70	.103 .171	.082 .137	.068 .114	.063 .105	.059 .098	.055 .091	.048 .080	
.60	.088 .147	.071 .118	.059 .098	.054 .090	.050 .084	.047 .078	.041 .069	
.50	.073 .122	.059 .098	.049 .082	.045 .075	.042 .070	.039 .065	.035 .058	
Mfd. Gas	.260 .432	.208 .346	.174 .289	.160 .266	.148 .247	.138 .230	.121 .202	
530 BTU	.235 .392	.189 .314	.157 .262	.145 .242	.135 .225	.125 .209	.110 .184	
per Cu. Ft.	.212 .353	.170 .283	.142 .236	.130 .217	.121 .202	.113 .189	.099 .166	
.90	.189 .314	.151 .252	.126 .210	.116 .193	.108 .180	.101 .168	.088 .147	
.80	.165 .275	.132 .220	.110 .184	.101 .169	.094 .157	.088 .147	.077 .129	
.70								
Butane-Air Mix	.517 .865	.417 .693	.347 .579	.320 .535	.298 .497	.277 .461	.243 .405	
540 BTU	.460 .769	.371 .616	.308 .514	.285 .475	.265 .442	.246 .410	.216 .360	
per Cu. Ft.	.403 .674	.325 .539	.270 .450	.249 .415	.232 .386	.215 .358	.189 .315	
1.50	.345 .576	.278 .462	.231 .386	.214 .356	.199 .331	.184 .307	.162 .270	
Cents Per lb.								
Propane								
21,600 BTU	.695 .115	.556 .925	.464 .771	.427 .711	.397 .660	.369 .615	.326 .542	
per lb.	.579 .965	.464 .772	.386 .643	.356 .594	.331 .551	.308 .514	.271 .452	
2,575 BTU	.464 .773	.371 .618	.309 .515	.285 .475	.265 .441	.246 .411	.217 .362	
per Cu. Ft.	.405 .675	.324 .540	.270 .450	.249 .415	.231 .386	.216 .360	.191 .317	
.06	.347 .579	.278 .463	.232 .386	.223 .371	.214 .356	.199 .331	.165 .271	
Butane	.588 .978	.470 .783	.392 .653	.364 .606	.336 .560	.314 .522	.277 .461	
21,247 BTU	.471 .782	.376 .626	.313 .522	.291 .485	.269 .448	.251 .418	.222 .369	
per lb.	.412 .685	.329 .548	.274 .457	.255 .425	.235 .392	.220 .366	.194 .323	
3,250 BTU	.353 .587	.282 .470	.235 .392	.218 .363	.202 .336	.188 .313	.166 .277	
per Cu. Ft.	.294 .489	.235 .391	.196 .327	.182 .303	.168 .280	.157 .261	.138 .231	
Cents Per KWH								
Electricity	.04		.974 .163	.900 .150	.836 .139	.782 .130	.690 .115	.650 .114
3,415 BTU	.03		.732 .122	.675 .113	.627 .105	.587 .975	.517 .861	.488 .845
per KWH	.02		.487 .813	.450 .750	.418 .698	.391 .650	.345 .575	.325 .563
.015			.366 .610	.338 .562	.314 .524	.293 .487	.258 .430	.244 .422
.01			.244 .406	.225 .375	.210 .349	.196 .325	.175 .287	.163 .272
.0075			.183 .305	.169 .281	.157 .262	.147 .244	.129 .215	.122 .211

The chart on this page will enable you to quickly figure the cost of heating water with various fuels. It shows how many gallons of hot water either 60° or 100° temperature rise, will be delivered for \$1.00 at various efficiencies.

In view of the fact that more gas-fired heaters are sold than most others combined, and because the trend is to automatic heaters, we will discuss the problem of "what price gas bill" for heating water. This question is usually asked when an automatic heater replaces the old tea-kettle or side-arm manually controlled heater. The correct answer is that the gas bill will be no more than when water was heated the old way, providing they use no more hot water. In fact, the bill would be less, by reason of the efficiency and economy of the insulated automatic type heater.

But when an automatic is installed, people always use more hot water because it is convenient and ready for use at all times. This should be explained, and instead of trying to figure the cost of the gas bill it is advisable to quote the cost per 100 gallons from the chart on this page. For example, you will find that 100 gallons of hot water, 60° temperature rise, will cost 5¢ with Natural Gas at 70¢ per 1000 cu. ft. For 100° rise water it will cost 8¢ for the same amount of water. This is figured with a 70% efficient gas heater, which is required by American Gas Association.

GASES COMMONLY USED

NATURAL — 900 to 1100 Btu per cu. ft.

MANUFACTURED — Water gas, 300 Btu per cu. ft. Carbureted Water gas, 500 to 600 Btu per cu. ft. Coke Oven gas, 550 to 580 Btu per cu. ft.

MIXED GAS — 800 to 850 Btu per cu. ft.

PROPANE GAS — 2550 Btu per cu. ft. Includes such gases as Philgas, Pyrofax, Skelgas, Shellane, Nugas, Stargas, Hopane, Flamo, etc.

BUTANE GAS — 3250 Btu per cu. ft.

BUTANE-AIR — 550 Btu per cu. ft.



HOTSTREAM

Useful and Helpful Information for the Estimator

SELECTING THE

PROPER HOTSTREAM GAS WATER HEATER

In the preceding section of this catalog, various types and sizes of automatic storage and Booster water heaters have been described. In the following paragraphs, pointers for selecting the proper type of water heater for various requirements are outlined. For average conditions, the sizing chart printed on each descriptive page can be followed.

THE AUTOMATIC STORAGE WATER HEATERS are available with storage tanks varying in capacity from 6 gallons to 120 gallons. Recovery capacities range between 21 to 112 gallons per hour based on a 100° rise in temperature. The Booster line has four sizes of storage tanks from 21 to 40 gallons in capacity and with recovery capacities ranging from 75 to 192.2 gallons an hour.

AUTOMATIC CIRCULATING TANK HEATERS AND MANUAL HEATERS are used in some low cost housing developments where initial cost is the principal factor in selecting equipment. In the following pages, these heaters, controls for these heaters, thermostats, automatic pilots and other accessories are listed. When such equipment is used, tanks should always be of adequate size and thoroughly insulated with 2" or more of approved insulation material. In hard water districts, circulating type heaters with large diameter water ways should be selected. A recommended sizing chart for these heaters is included in the description that follows.

LOW INCOME HOMES are usually served most economically by small quick-recovery water heaters. Initial cost may be an important factor in deciding upon the storage capacity.

MEDIUM-INCOME HOMES seldom use more than 1500 gallons of hot water each month. Under normal circumstances, a 30 gallon or a 40 gallon quick-recovery heater will give satisfactory service in an average one-bathroom house.

LARGE HOMES AND APARTMENT BUILDINGS with multiple baths will most often require heaters with storage capacities over 40 gallons and with high recovery ratings. The Booster type of heater will fill the requirements for this type of service in most cases.

BOARDING HOUSES usually require hot water service similar to apartment buildings. When the load characteristics are similar to those in private homes and do not exceed 100 gallons of hot water per hour, automatic storage heaters may be used.

METHOD FOR SELECTING THE PROPER WATER HEATER

In selecting the proper water heater to be used in conjunction with or without a storage tank for hot water, we should be concerned with the amount of hot water in gallons to be used during the greatest peak period, and the number of hours the peak may last. Since it is more economical to have as much of the water stored ready for use at the time the demand starts, we find we should have a minimum of one third and if possible one half of the water in storage. The remaining requirement in gallons is divided by the number of hours the peak will endure to give the number of gallons of hot water the heater will have to recover each hour to supply the portion not stored. Also the heater should be large enough to re-heat the tank completely in five hours or less time.

The quantity in gallons that is required depends on the use, domestic household, apartments, institutional or industrial.

COMMERCIAL AND INDUSTRIAL APPLICATIONS usually require a special study to determine the hot water requirements in order to properly size the installation. In most applications, however, single or multiple automatic storage water heaters or Booster water heaters will be found most practical and economical.

SIZING CHART FOR LAUNDERETTE WATER HEATING EQUIPMENT

LOAD REQUIREMENTS			LIBERAL ←		AVERAGE		→ CONSERVATIVE		RECOMMENDED EQUIPMENT
No. of Machines in Launderette	Storage Req'd.	Hourly Recovery	Recommendation #1		Recommendation #2		Recommendation #3		
	For First Run Gals.	100° Rise Gals.	Storage in Gals.	Heater Model No.	Storage in Gals.	Heater Model No.	Storage in Gals.	Heater Model No.	
5	87½	117	100	1—#150PR	100	Twin 192	75	Twin 192	
10	175	233	200	2—#150PR	150	3—#100PR	150	2—Twin 192	
15	263	350	300	2—#250PR	250	2—#225PR	250	1—#250PR	
20	350	467	400	3—#250PR	350	3—#225PR	300	2—#250PR	
25	438	584	500	4—#225PR	400	3—#250PR	300	3—#225PR	

The above Chart is calculated on the basis of 17½ gallon hot water at 100° F. rise and a washing period of 45 minutes including complete processing.

It will be observed that the minimum storage is figured to charge all machines at once when the shop opens for business. The recovery

DOMESTIC HOUSEHOLD: Add the number of adults six years and over, plus two times the number of children under six years of age. Add to this number one person if an automatic laundry is used, and one more person if more than one bathroom is in the house. The final number is multiplied by 20 to give the number of gallons of water raised 100 degrees Fahrenheit required for a period of the peak demand which would be on the washday and would last for two hours. This quantity of water can be supplied by any combination of storage and two hours of heater recovery based on 100 degrees rise.

EXAMPLE: A home of three adults and one child, automatic laundry and one bathroom gives us a total of six people. A nominal total of six people times 20 gallons per person equals 120 gallons required for the peak period, and between one third and one half of this amount would be 40 or 60 gallons that should be in storage. Therefore, a 40-gallon storage would be a conservative estimate and sixty gallons would be a liberal estimate. As an average we can use the conventional 50 gal. heater with 37½ gal. recovery. Two times 37½ equals 75 gallons recovery, plus 50 gallons storage equals 125 gallons available in two hours time. Therefore, the 50 gallon heater with a 37½ gallon recovery would be an average arrangement.

APARTMENT BUILDING: Again we are concerned by the number of people that may be housed in the apartment building. To find this we add up the total number of bedrooms, including the rooms that have in-a-door equipment, and double this total to find the total number of people. The number of people is then multiplied by 10 gallons of hot water per person giving the number of gallons required for the peak period.

The peak period in an apartment building depends on the bathing period, and the duration will increase with the number of people involved. The buildings containing up to 25 people are figured at a peak duration of 2½ hours, from 30 to 60 people, figure three hours, and over sixty people allow four hours for the peak period.

EXAMPLE: A 24-suite building, two bedrooms each, equal 48 bedrooms. Computation — 48 x 2 people equal 96 people to the building.

96 people times 10 gallons equal 960 gallons required in four hours.

One third of 960 equal 320 gallons in storage for conservative estimate.

One half of 960 gallons equals 480 gallons in storage for liberal estimate. In this case we would use the standard 500 gallon storage tank for the liberal estimate.

Computation — 960 gallons
minus 500 gallons

460 gallons remaining must be recovered in four hours by the water heater.

Therefore 460 gallons divided by four hours equals 115 gallons per hour, which is the minimum recovery of the heater that would be satisfactory for these requirements.

This indicates that the Hotstream No. 150-PR Booster is the proper heater to do the job, since it has a recovery of 126 gallons per hour raised 100 degrees Fahrenheit, when used with a 500 gallon storage tank.

HOT-WATER USE ANALYSIS	Gallons of Hot Water Per Average Draw
1. Small wash basin	1.3
2. Large wash basin	2.3
3. Tub bath	10.0 to 15.0
4. Shower bath	5.0 to 10.0
5. Baby bath	4.0
6. Dish washing (average family)	2.0 to 3.0
Per person	1.0
7. Floor mopping	2.5 to 6.5
Medium pail holds	3.3
8. Laundry at home per person	4.0 to 10.0
Washing machine holds	15.0 to 30.0
9. Dishwasher	7.0 to 9.0

ery as given is based on natural gas and for a full hour to recharge each machine continuously.

The three recommendations allow some selection of equipment for variations of economy, installation and space allowed for equipment.

USEFUL INFORMATION

Capacity of Storage Tanks

Homes need an approximate storage capacity equal to $\frac{1}{5}$ the daily quantity of water used.

Apartments — $\frac{1}{3}$ daily consumption.

Hotels and restaurants — $\frac{1}{10}$ daily consumption.

Office buildings — $\frac{1}{6}$ daily consumption.

One-meal restaurants — about 40% daily volume.

When automatic heaters are purchased, Hotstream is in position to furnish sizes with storage tanks ranging in capacities from 6 to 100 gallons. Capacities of standard range boilers and storage tanks (used with side-arm tank heaters and for large volume water heating) are given in the following tables:

Standard Range Boiler Sizes

12" x 36"	18 gal.	18" x 60"	66 gal.
12" x 48"	24 gal.	20" x 60"	82 gal.
12" x 60"	30 gal.	22" x 60"	100 gal.
14" x 48"	32 gal.	24" x 60"	120 gal.
14" x 60"	40 gal.	24" x 72"	144 gal.
16" x 48"	42 gal.	24" x 92"	192 gal.
16" x 60"	52 gal.		

Number of Gallons in Round Tanks

LENGTH IN FEET	DIAMETER — INCHES									
	18	24	30	36	42	48	54	60	66	72
2	26	47	73	105	144	188	238	294	356	424
2½	33	59	90	131	180	235	298	367	445	530
3	40	71	109	157	216	282	357	440	534	636
3½	47	83	127	183	252	329	416	513	623	742
4	54	95	145	209	288	376	475	586	712	848
4½	61	107	163	235	324	423	534	659	801	954
5	68	119	180	261	360	470	593	732	890	1060
5½	75	131	200	287	396	517	652	805	979	1166
6	82	143	217	313	432	564	711	878	1068	1272
6½	89	155	235	339	468	611	770	951	1157	1378
7	96	167	253	365	504	658	829	1024	1246	1484
7½	103	179	271	391	540	705	888	1097	1335	1590
8	110	191	289	417	576	752	947	1170	1424	1696
8½	117	203	307	443	612	799	1006	1243	1513	1802
10	134	239	361	521	720	940	1183	1462	1780	2120
12	151	287	433	625	864	1128	1419	1754	2136	2544
14	168	304	460	672	936	1248	1596	2016	2496	2968
16	185	321	487	714	1008	1344	1744	2224	2784	3392
18	202	338	514	756	1080	1440	1872	2400	3024	3664
20	219	355	541	798	1152	1536	2016	2624	3312	4000

The capacity of any round tank in gallons is equal to the diameter squared, multiplied by the length, and that figure multiplied by 6. The diameter and length of a tank should be measured in feet. For a more accurate method of figuring, use the factor 5.9 instead of six.

The capacity or recovery of a water heater is determined by the efficiency of the heater and the fuel used.

Coal	50% efficient
Fuel Oil (No. 1)	60% efficient
Gas (Natural, Mixed, Manufactured)	70% efficient
Bottled Gas	70% efficient
Electricity	90% efficient

With gas as a fuel, Hotstream heaters are based on an efficiency of 70%. Most Hotstream heaters test considerably higher.

Shower Baths

A factor which must be seriously considered when figuring the storage tank capacity or size of heater is the number of shower heads, the size and capacity of these heads, as well as the length of time and how often used. Where showers are used it is always necessary to figure either a larger size heater or one having a quicker recovery capacity. This depends on the service required.

Capacity of Shower Heads at Various Pressures

Pounds Pressure	20	30	40	50
* 1½" (Gallons Per Minute)	4	8½	10	12
4" (Gallons Per Minute)	5½	9¼	11½	13½
5" (Gallons Per Minute)	6½	11½	14½	16½
6" (Gallons Per Minute)	7¼	13½	16½	18½
8" (Gallons Per Minute)	9	15	18	20
10" (Gallons Per Minute)	10½	16	19	21
12" (Gallons Per Minute)	12	26	29	32

* This is the new style shower head.

Water Temperature Required For Various Classes of Service

CLASS OF SERVICE	Minimum Degree F.	Maximum Degree F.
Baptistries	70	110
Barber Shop (not sterilizing)	115	150
Bars and Soda Fountains (hot drinks)	175	212
Baths Only	110	150
Dishwashing (hand work)	130	212
Dishwashing (machine)	180	212
Garage (for washing cars)	80	100
General (domestic use)	130	160
Laundry (hand work)	115	212
Laundry (machine work)	180	212
Lavatories and Cleaning Uses	115	150
Milk Dealers (not sterilizing or pasteurizing)	115	150
Shower Baths	100	130
Swimming Pools	70	100

Flow of Water in Gallons Per Minute Delivered by Ordinary Plumbing Fixtures

FIXTURE	Fair Flow	Good Flow	Excellent Flow
Kitchen Sink Bibbs	2	4	6
Pantry Sink—High Goose-Neck Bibbs	2	2	3
Pantry Sink—Large Plain Bibbs	4	6	8
Vegetable Sink Bibbs	2	4	6
Laundry Tray Bibbs	4	6	8
Slop Sink Bibbs	3	4	6
Lavatory Bibbs	2	3	4
Bathtub Bibbs	3	4	6
Shampoo Spray	½	1	2
Liver Spray	1	2	3

Interesting Facts Regarding the Heating of Water

Return Circulation on Domestic Automatic Gas Storage Heaters

It has been a practice for years for Dealers who make Automatic Storage Heater installations to install return circulating lines running from the highest point on the job back to the bottom of the hot water storage tank. This type of installation is generally made where the runs of piping from the water heater to the bathroom are quite long, the idea being to continually circulate the hot water through the system so that, upon opening the faucet, hot water is available, without drawing any considerable amount of water.

While the installation of a circulating line does give almost instantaneous hot water at the faucet, we doubt whether the additional expense in gas consumption is justified by the convenience that a system of this type offers.

In most homes the water piping on both hot and cold lines is $\frac{1}{2}$ " pipe, and inasmuch as it requires 77 ft. of $\frac{1}{2}$ " pipe to hold one gallon of water, the distance between the hot water heater and the bathroom would have to be excessive in order to really benefit by the installation of a circulating system.

When these circulating jobs are installed, the return line, as well as the hot water lines, are very seldom, if ever, covered by insulation, so that as the water circulates through the system slowly, there is a continuous loss of heat by radiation. The water running back through the circulating line to the bottom of the storage tank keeps the Thermostat active. The Thermostat comes on a great number of times during the day when no hot water has been drawn.

According to the most authoritative figures we can procure, such a circulating system, in the average residence, adds about 30% to the gas bill, and inasmuch as the cost of water in most cities is very reasonable, it would be much better to draw an extra gallon or so of hot water than it would be to waste the additional amount of gas that it takes to keep this circulating system hot.

It has been our experience where there has been complaint of excessive gas bills and we have discovered that the home was equipped with a circulating system, we have shut off the circulating line leading back to the bottom of the storage tank, and have had no complaints from the owners. The saving in the gas bill overshadowed any slight inconvenience.

Therefore, in the interest of economy and practicability, we do not recommend the installation of return circulating systems in connection with an Automatic Hot Water Storage Heater for domestic use.

Heat Losses from Uninsulated Piping

Cubic Feet of Gas (540 B.T.U.) Used per Month by Heat Dissipated from Uninsulated Pipes.

Average Water Temperature Taken as 130° with
Air Temperature 70°

Size of Pipe Inches	B. t. u. Loss Per Hr. Per Lineal Foot	Cu. Ft. of Gas per Month for each 100 Ft. of Pipe	Cost @ \$1.00 per M. Cu. Ft.
$\frac{1}{2}$	42.2	7,503	\$ 7.50
$\frac{3}{4}$	52.3	9,299	9.30
1	64.8	11,521	11.52
$1\frac{1}{4}$	80.1	14,242	14.24
$1\frac{1}{2}$	90.7	16,127	16.13
2	111.8	19,878	19.88
$2\frac{1}{2}$	133.1	23,665	23.67
3	160.2	28,484	28.48
4	202.6	36,022	36.02
5	246.1	43,757	43.76

Heating Value of Various Fuels

- Natural gases range from 900 to 1200 Btu per cu. ft.
- Butane gas is 3,250 Btu per cu. ft.
- Propane gas is 2,575 Btu per cu. ft.
- Manufactured Gas is 530 to 600 Btu per cu. ft.
- #1 Fuel Oil is 133,000 Btu per gal.
- Electricity is 3,415 Btu per KWH.

To Clean the Inside of a Copper Coil

This seldom is necessary except in those parts of the country where the water contains mud, lime and other easily precipitated minerals. When this foreign matter has been deposited in the coils, it becomes baked from the intense heat of the gas, obstructs water flow and lowers efficiency.

Such deposits are not difficult to clean out. Remove the coil from the heater. Plug one end of it and pour in Muriatic Acid. Let stand overnight, pour out and flush thoroughly with water. If the coil is not thoroughly clean, repeat the process until all deposits are removed. Muriatic Acid does not affect the copper.

Interesting Facts About Water

One cubic inch of water weighs .0361 pounds.

One pound equals 27.7 cubic inches of water.

One cubic foot equals 62.4245 pounds at 39 degrees Fahr.; 7.48 gallons, U. S.; 6.2321 gallons, Imperial.

One U. S. gallon equals 8.33111 pounds; 231 cubic inches; .13368 cubic feet.

One pound pressure equals 2.31 feet in height.

One foot in height equals .433 pounds in pressure.

To determine the velocity in feet per minute necessary to discharge a given volume of water in a given time, multiply the number of cubic feet of water by 144 and divide the product by the area of the pipe in inches.

To determine the velocity in feet per second necessary to discharge a given number of gallons per minute, through a given area, multiply the gallons per minute by .321 and divide by the given area in square inches.

Friction of water in pipes increases directly as the square of the velocity and length of pipe, and inversely as the diameter.

Doubling the diameter of a pipe increases its capacity four times.

Steam Temperatures

Pressure	.3 Lb.	213. Degrees
Pressure	1.3 Lb.	216.3 Degrees
Pressure	2.3 Lb.	219.4 Degrees
Pressure	3.3 Lb.	222.4 Degrees
Pressure	4.3 Lb.	225.2 Degrees
Pressure	5.3 Lb.	228. Degrees
Pressure	10.3 Lb.	240. Degrees
Pressure	15.3 Lb.	250. Degrees
Pressure	20.3 Lb.	259. Degrees
Pressure	30.3 Lb.	274. Degrees

Chart of U. S. Standard Gage Numbers Showing Actual Thickness, Decimal and Fractional Equivalents

Actual tank gages for the top, bottom, shell and flue walls are shown in the table of specifications on the pages describing each model automatic storage water heater. We are extremely proud of the specifications of the storage tanks used in the manufacture of Hotstream heaters and therefore refer you also to the following chart showing the actual thickness for the various gages of steel. Although tanks can be built of lighter gages and still pass various pressure tests, we have nevertheless made it our policy to use heavier gages which will add materially to the life and service of our products.

Actual Thickness	U. S. Std. Gauge No.	Decimal Equivalent	Fractional Equivalent
	0	.2990	19/64"
	1	.2686	17/64"
	2	.2539	1/4"
	3	.2391	15/64"
	4	.2242	7/32"
	5	.2092	13/64"
	6	.1943	3/16"
	7	.1793	11/64"
	8	.1644	5/32"
	9	.1495	9/64"
	10	.1345	1/8"
	11	.1196	7/64"
	12	.1046	3/32"
	14	.0747	5/64"
	16	.0598	1/16"
	18	.0478	1/20"
	20	.0359	3/80"
	22	.0299	1/32"
	24	.0239	1/40"
	26	.0179	3/160"

FOR ARCHITECTS AND CONTRACTORS

Properly servicing any establishment or home with 24-hour hot water service, can only be done with adequate knowledge and through intelligent specifications. To make your problem easier, we have available, in 8½ x 11 form, specification sheets covering each unit shown in this catalog. So that you and your clients are assured of the proper installation, we offer the following adopted example to be used in specifying automatic storage gas water heaters:

"GAS WATER HEATER" shall be Model No. R30-M, trade name *Hotstream Dixie*, type underfired, multiple-center-flue, automatic storage, with a gas input rating of 35,000 Btu per hour and a recovery capacity of 29.4 gallons per hour raised 100°, as manufactured by *The Hotstream Heater Company*, designed for automatic control. Controls shall consist of a snap-action type thermostat and thermocouple automatic pilot, burners shall be designed to operate on natural gas fuel. Heater shall be equipped with the following accessories: Diaphragm Pressure and Temperature Relief Valve, and Dielectric Unions."

Always be certain to specify the kind of gas and its Btu content, particularly when the heater is to be used with liquefied petroleum gases and propane-air or butane-air. The contractor shall obtain all necessary permits, and shall comply with all local ordinances. The contractor should learn the pressure at which cold water is delivered from the mains. If this pressure exceeds the working pressure of the tank in the heater, a water pressure regulator should be installed. Installation should be made, and heater adjusted, according to the directions furnished by the manufacturer. The local gas company will be glad to assist in seeing that adjustments of heater are made properly. The system should be operated for a specified period in order to check and test all equipment and piping. The temperature of hot water delivered shall be ascertained. Upon completion of tests, the contractor shall instruct the owner in necessary detail as to the systems care and maintenance, giving him all pertinent papers including warranty post-card, properly filled out and signed as required.

For further information regarding any of your water heating problems, you are invited to consult our engineering department without cost or obligation.

HOW TO ADJUST BURNER TO OPERATE AT ITS NORMAL INPUT

1. Divide the rated capacity appearing on the label of the heater by the number of Btu (heat units) in one foot of gas being used, and the answer will be the number of feet per hour this heater burner should be adjusted to pass. (If you do not know the number of Btu in your gas, phone your local gas company.)
2. Make sure all gas appliances in building are turned off.
3. Light water heater only and adjust the main burner.
4. Ascertain the number of feet per hour being consumed in water heater. Time the gas meter.
5. Proper number of feet as determined above can be secured by adjusting the main "A" valve.

SUGGESTIONS FOR QUICKLY TIMING A GAS METER

Ascertain how many seconds it takes to pass one foot of gas, as shown by the small two foot dial on the meter, and divide into 3,600. The answer will be the number of feet per hour passing through the meter. To prove answer, check back by finding how many seconds it takes to pass two feet, and divide into 7,200.

RECOVERY CAPACITIES

Having Input rating to secure recovery capacity at 100° rise — multiply two first figures in input rating by .84.

EXAMPLE — 30,000 Input 30 x .84 = 25.20 gallon raised 100 degrees.

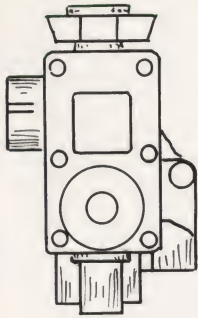
To secure recovery at 60° rise — multiply by 1.4.

EXAMPLE — 30,000 input 30 x 1.4 = 42 gal. raised 60°.

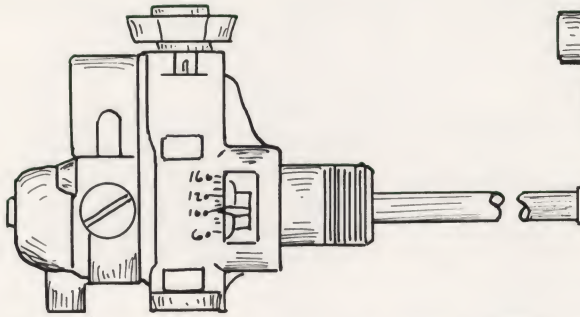
All recoveries shown in catalogue are based on 70° efficiency — 100° temperature rise.

Ratings are shown for sea level. Ratings should be reduced at rate of 5% for each 1000 feet above sea level.

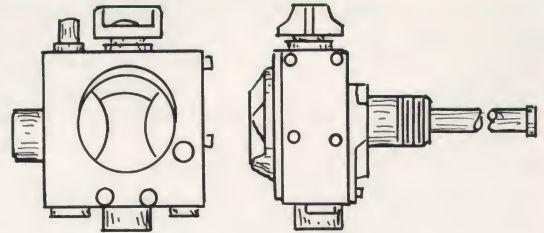
Types of Thermostats for Repairs



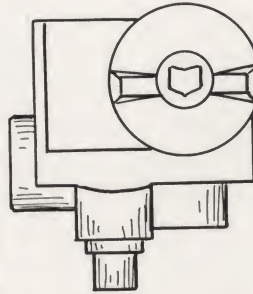
Unitrol Jr. C
Thermostat Only\$16.50
Comp. Assembly 23.10



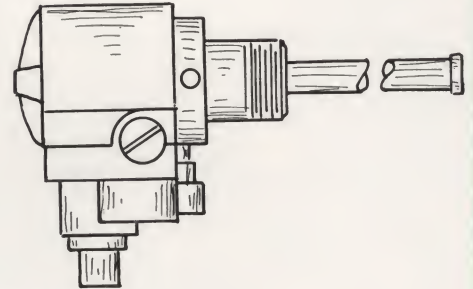
V-5126
Minneapolis Honeywell
Thermostat Only\$19.80
Comp. Assembly 26.40



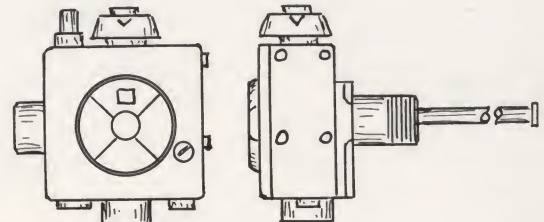
G5G General
Thermostat Only\$19.80
Comp. Assembly 26.40



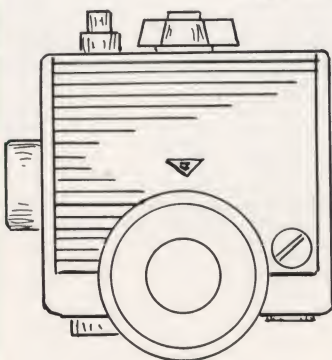
No. 110 Unitrol
Thermostat\$16.50
Comp. Assembly 23.10
Specify 3/8" Pipe or 1/2"
Flared Tubing Connection



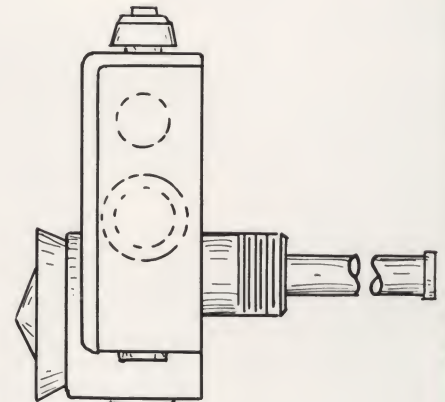
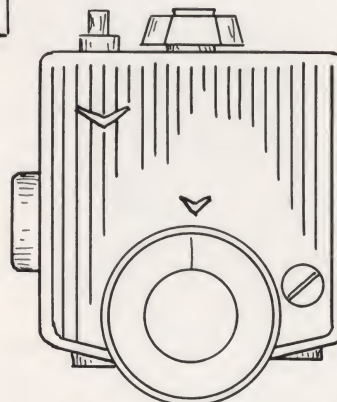
V-5124
Minneapolis Honeywell
Thermostat Only\$19.80
Comp. Assembly 26.40



No. 200 Unitrol
Thermostat\$19.80
Comp. Assembly 26.40
Specify 3/8" Pipe or 1/2"
Flared Tubing Connection



Unitrol 400
Thermostat Only\$21.80
Comp. Assembly\$28.40



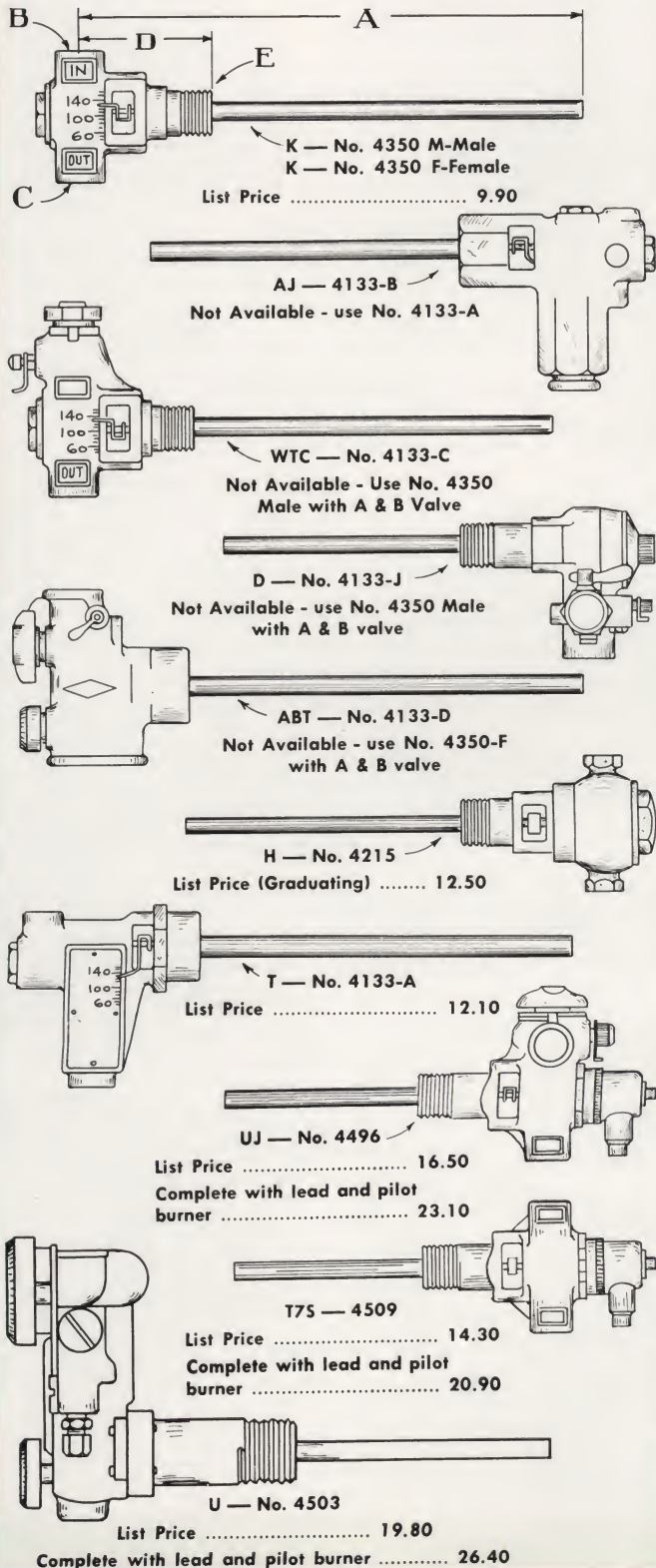


HOTSTREAM

Types of Thermostats for Repairs

When ordering Thermostats shown below, always give the following information:

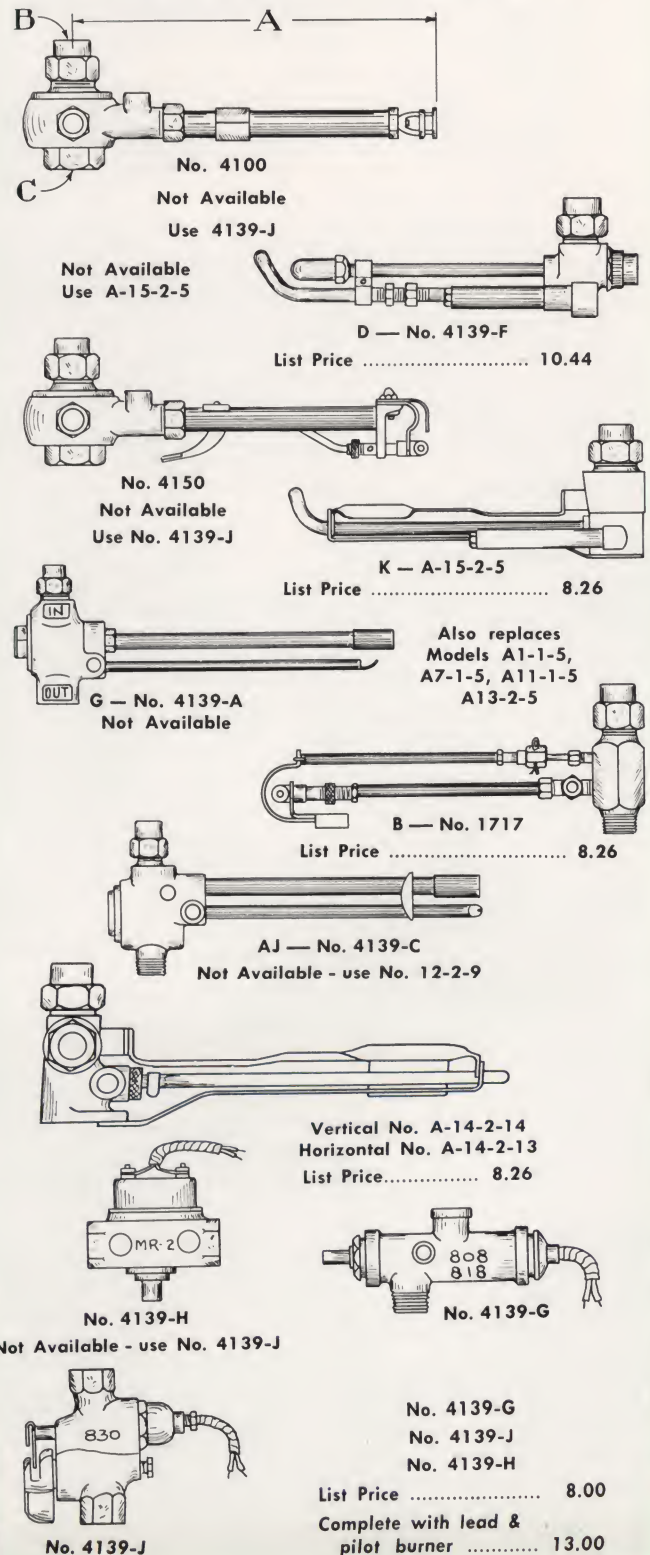
- Heater Make and Model Number
- Thermostat Part Number
- Dimension "A" Gas Line to Tube End
- Pipe Size in "B"
- Pipe Size Out "C"
- Dimension "D" Gas Line to Thread End
- Pipe Size "E" Male or Female



Types of Automatic Pilots for Repairs

When ordering Safety Pilots, shown below, always give the following information:

- Heater Make and Model Number
- Pilot Part Number
- Dimension "A" Gas Line to Pilot Flame (Where Applies)
- Pipe Size in "B"
- Pipe Size Out "C"



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HEATER NAME	MODEL NUMBERS	Tanks	Outer Jacket Ind. Crated	Aluminized Steel Flue Liner Crated	Jacket Top or Base	Crate		
Tabletop & Kitchen Cabinet Feature Model "O"	D20T-TT-KK D30T-TT-KK TT-25 TT-30 D15-0 D20-0, 0-20 D25-0 D30-0, 0-30 D40-0, 0-40 D50-0, 0-50	103.00 129.00 97.00 129.00 60.00 79.00 85.00 98.00 98.00 129.00	68.00 68.00 68.00 78.00 16.00 18.00 20.00 22.00 26.00 30.00	..... ..... ..... ..... 16.00 18.00 20.00 22.00 26.00 30.00	7.20 10.20 7.20 8.00 8.40 8.40 9.60 9.60	20.00 22.00 20.00 22.00 20.00 11.00 12.00 14.00 16.00 18.00		
Dixie Model "R2" & "R"	D75-R2 D80-R2 D100-R2 R20 R30 R40 R50	251.00 256.00 260.00 115.00 123.00 122.00 156.00	40.00 40.00 44.00 18.00 22.00 26.00 30.00	..... ..... ..... ..... ..... ..... .....	14.00 14.00 16.00 8.00 8.40 9.60 10.00	22.00 22.00 26.00 12.00 14.00 16.00 18.00		
American — D and Model "C"	D-15, C-15 D-20, D20F C20-F D 30, D30F C-30 D40, D40-F D50F	53.00 55.00 64.00 60.00 90.00 88.00 116.00	17.00 18.00 19.00 22.00 22.00 26.00 30.00	..... ..... ..... ..... ..... ..... .....	7.20 8.00 8.00 8.40 9.60 10.00 11.00	10.00 12.00 14.00 14.00 16.00 18.00 19.00		
Model "H" "HF" and "HS"	H-20, H20-F H-30, H30-F H-40, H40-F H20-S, D20-S H30-S, D30-S H50-F	55.00 60.00 88.00 60.00 70.00 75.00	16.00 20.00 24.00 18.00 22.00 28.00	..... ..... ..... ..... ..... .....	6.00 8.00 9.00 9.00 10.00 9.50	10.00 12.00 14.00 10.00 12.00 18.00		
Glass Lined	GL-20 GL-30 GL-40 GL-50	69.00 78.00 100.00 135.00	16.00 20.00 24.00 28.00	..... ..... ..... .....	6.00 8.00 9.00 9.50	10.00 12.00 14.00 18.00		
Model "A"	AY-15 A-20, AY-20 A-30, AY-30 A-40, AY-40 A-60, AY-60 A-20C Copper A-30C Copper A-40C Copper	43.00 45.00 54.00 76.00 105.00 130.00 165.00 215.00	16.00 18.00 22.00 26.00 34.00 18.00 22.00 26.00	16.00 18.00 22.00 26.00 34.00 18.00 22.00 26.00	7.20 8.00 8.40 9.60 10.00 8.00 8.40 9.60	10.00 12.00 14.00 16.00 18.00 12.00 14.00 16.00		
Stone Lined	A-30-SL A-40-SL A-60-SL	61.00 78.00 105.00	22.00 26.00 34.00	22.00 26.00 34.00	8.40 9.60 10.00	14.00 16.00 18.00		
Aluminum	AL30 AL40	104.00 148.00	22.00 26.00	22.00 26.00	8.40 9.60	14.00 16.00		
Model "X" "Y" and "X"	X-20, XK-20 X20-P XG-20, Y-20 X-30, XK-30 X30-P XG-30, Y-30 XCK40F, YK40F YC40F or Y40F X-50	55.00 55.00 55.00 60.00 60.00 60.00 88.00 88.00 116.00	16.00 16.00 16.00 20.00 20.00 20.00 24.00 24.00 .....	..... ..... ..... ..... ..... ..... ..... ..... .....	6.00 6.00 6.00 8.00 8.00 8.00 9.00 9.00	10.00 10.00 10.00 12.00 12.00 12.00 14.00 14.00		
Booster	75-140PR 90-224PR 100, 300LPG 150, 350-LPG 225, 250, 425-LPG	261.00 325.00 256.00 271.00 352.00	34.00 40.00 32.00 30.00 32.00	..... ..... ..... ..... .....	14.00 16.00 14.00 10.00 12.00	22.00 24.00 22.00 20.00 20.00		
Dixie Series "R" "D-R" "D-R2" "RS"	D6-R D12-R D15-R D20-R2 D24-R2 D30-R2 D40-R2 D50-R2	61.00 65.00 70.00 84.00 75.00 118.00 124.00 127.00	14.00 16.00 18.00 18.00 20.00 22.00 26.00 30.00	..... ..... ..... ..... ..... ..... ..... .....	7.00 7.00 7.20 8.00 8.40 8.40 9.60 10.00	8.00 8.00 10.00 12.00 13.00 14.00 16.00 18.00		
Electric	S6-EW S12-ER or EW 30-ET 40-ET 20-EW 30-EW 42-EW 52-EW 66-EW 82-EW 52-EWC Copper 120-EW	35.00 39.00 90.00 109.00 56.00 62.00 69.00 90.00 114.00 126.00 225.00 157.00	14.00 16.00 68.00 68.00 18.00 22.00 24.00 30.00 32.00 34.00 30.00 40.00	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	6.00 6.00 8.00 9.00 9.60 10.00 12.00 14.00 10.00 16.00	8.00 10.00 20.00 20.00 12.00 14.00 16.00 18.00 20.00 22.00 18.00 24.00		
Stone Lined Glass Lined Electric	5-ESL 30-ESL 42-ESL 52-ESL 66-ESL 82-ESL 30-EGL 42-EGL 52-EGL 82-EGL	40.50 62.00 73.40 82.50 109.50 120.90 71.84 71.84 85.44 106.76 115.70	14.00 30.00 24.00 30.00 32.00 34.00 22.00 24.00 30.00 34.00	..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....	6.00 6.00 9.60 10.00 12.00 14.00 9.00 9.00 10.00 10.00 14.00	8.00 8.00 16.00 18.00 20.00 22.00 14.00 16.00 18.00 18.00 22.00		
Oil Burning Automatic	30-F, 8-F, 1-F 40-F, 8-F, 1-F 30-F-46 40-F-46 60-F-46	102.00 125.00 82.00 102.00 128.00	36.00 40.00 26.00 30.00 34.00	..... ..... ..... ..... .....	10.00 10.00 10.00 12.00 14.00	16.00 18.00 16.00 18.00 22.00		

GAS PARTS

Kilroy Thermostat ...	9.90
Kilroy Safety Pilot ...	8.26
*Unitrol Jr. & 110 Complete	23.10
Unitrol A10 & 200 — General GSG & Minneapolis Honeywell Complete	26.40
Unitrol 400—Comp.	28.40
Main Burner 2108 ...	3.60
Main Burner 2119 ...	5.70
Main Burner 2250 ...	8.00
Main Burner 2239 ...	9.30
Main Gas Valve A ..	2.30
Main Gas Valve #332	4.88
Main Gas Valve for Booster 100 or 150..	4.00
Main Gas Valve for Booster 225 or 250..	6.80
"B" Pilot Valve	1.30
Flue Baffle ea.	1.60

Flue Baffle for Booster per set:

No. 100	4.30
No. 150	10.00
No. 225 and No. 250..	15.00
No. 75-140 and 90-224	6.40
D75, 80, or 100 R2 ...	4.80

Legs, each:

Pressed Steel — 4" Chair .....	.80
Pressed Steel Bolt-on..	1.00
Pedestal each	4.60
Booster Type	4.60

Door and Frame:

Pressed Steel Single..	3.00
Pressed Steel Double..	4.00
Cast Iron Booster Type	4.00

Draft Hoods: Vertical

3"	1.50
4"	2.06
5"	2.70
6"	3.40
7"	4.58

Thermo Couple Pilot:

Burner with Orifice ...	1.80
Pilot Burner Orifice Fittings .....	.80
Pilot Orifice Spud ...	.66

Thermo Couple Leads:

18"	2.32
24"	2.44
30"	2.60
48"	3.68
60"	4.64
72"	5.48
Main Burner Orifice Spud .....	.30

GAS PARTS (Cont.)

Thermo Couple Leads	
Orifice Spud Fitting for Main Burner ....	.80
Bell Air Mixer Shutter .....	.60
Brass Union Nut (3/4)..	.40
Various Nipples — each, average .....	.50

ELECTRIC PARTS —

Specify Voltage Heating Elements:

600 to 3000 watts	11.00
4000 watts	12.00
5000 watts	15.00

Legs:

For 6 and 12 Gal. ....	.80
Pedestal Type ea.	4.60
Access Panel ea.	2.40

Snap On Type Thermo Disc -

Lower #5025	4.92
Upper #5135	5.96
ARTM Comb. Thermo. and Htg. Element....	26.04

Snap On Type Camstat —

Lower #A1	4.92
Upper #B2	5.96

Immersion type —

Titan Lower #2P	14.40
Titan Upper #1P	14.40
Well for Titan	1.50

OIL PARTS

For Models F, 8-F, or 1-F

Thermostat #10	18.16
Control Valve #17	25.16
Burner Assembly #6	19.40
Pilot Baffle Plate(C.I.)	1.50
Draft Control 6"	2.80
Draft Tee 6"	1.32

For Model F-46

Thermostat and oil level Combination #7116	44.20
Burner Assembly	15.84
Pilot burner hood casting #735	1.20
Draft Control 6"	2.80
Draft Tee 6"	1.32

STANDARD PARTS

Insulation:

Up to 40 gal. incl.	2.50
Up to 60 gal. incl.	4.20
Over 60 gal.	6.00
Plastic Dip Tube: 3/4" dia. any length....	1.30
1" dia. any length	1.80

Drain Cocks:

1/2" Male or Female..	1.20
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Part Diagram Reference No.

MODEL NUMBERS		COPPER COILS FOR REPAIRS																		
Non-Union	Union	Single	Double (Non-Union)	Double (Union)	Triple	Jacket Complete	Jacket Top	Jacket Base	Outer Jacket	Inner Drum	Door & Frame	Insulation	Main Burner	Ring Burner	Straight Mixer	Ell Mixer	Mixer Shutter	#3 Gas Valve	Set of 3 Legs	Door Catch
20	20U		\$ 9.70	\$10.54									\$3.60		\$1.76	\$2.50	\$.50	\$1.80		
	24U, 42U, 44		13.12	13.90									3.60	3.60	1.76	2.50	.50	1.80		
25, 29	25U, 29U, 41, 46, 47, 40S		14.37	15.34									3.60	3.60	1.76	2.50	.50	1.80		
30, 30A	30U, 50, 50S		16.18	17.10									3.60	3.60	1.76	2.50	.50	1.80		
	70			19.46									3.60	3.60	1.76	2.50	.50	1.80		
	151	23.82											3.60	3.60	1.76	2.50	.50	1.80		
	182 (Double) 80U (Triple)			52.84	52.84	22.68	3.60	2.78			8.32		5.70	5.70	1.76	2.50	.55	5.82		.42
	192 (Double) 193 (Triple)			88.64	88.64	27.72	5.00	4.16			9.70		3.60	3.60	1.76	3.60	.55	5.14	2.98	.42
S20, M20	S20U		9.70	10.54		9.98	1.66	1.66	2.08	1.66	2.08	.84	3.60	3.60	1.76	3.60	.50	1.80		
S24, M24	S24U		13.12	13.90		10.96	1.66	1.66	2.50	2.08	2.08	.96	3.60	3.60	1.76	3.60	.50	1.80		
S25, M25	S25U		14.37	15.34		11.92	1.66	1.66	2.92	2.50	2.08	1.13	3.60	3.60	1.76	3.60	.50	1.80		
S30, M30	S30U		16.18	17.10		11.92	1.66	1.66	2.92	2.50	2.08	1.13	3.60	3.60	1.76	3.60	.50	1.80		
	5 (With Nuts)	6.94				8.24	1.86	1.86			3.20		5.30	5.30			.50	1.80		.42
	1	6.94				3.08	1.86	1.86					5.30	5.30			.50	1.80		.42
420			21.32			13.86	3.32				5.54		3.60	3.60	1.76	2.50	.50	1.80		.42
20F				13.86		12.48	1.94	3.14					3.60	3.60						
80F						34.40	2.13	2.75					5.70	5.70						.42

All double copper coils except No. 182, 80F 192 and 193 are packed in individual cartons.

Miscellaneous Accessories and Repair Parts for Sidearm Heaters

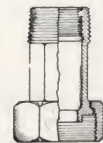
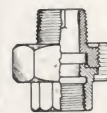
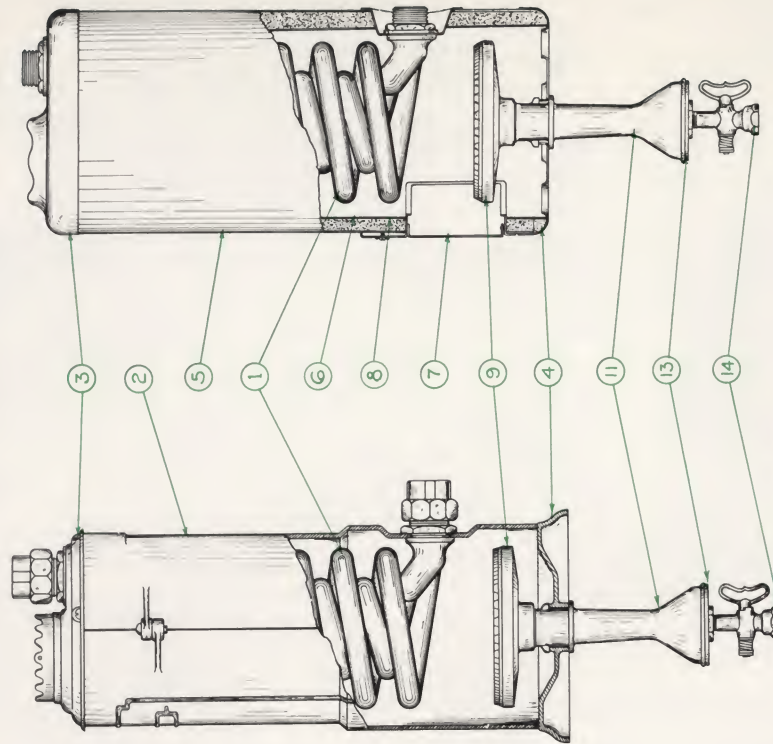
Item	List
Thermocouple Automatic Pilot for L.P. Gas and Other Gases $\frac{3}{8}$ " or $\frac{1}{2}$ "	\$13.00
18 gauge tubing on No. 20, add	2.44
18 gauge tubing, all other sizes up to and including No. 30	3.36
Coil, Finned at lower end, add	1.70
On Large Volume Coil, add	5.54
Galvanized Long Sweep Ell, add	1.54
Brass Long Sweep Ell, add	2.30
Ell Mixer, Optional . . . No Extra Charge	.60
Coil Protector (To prevent damage to coil from pilot flame)	15.94
Twin 80 Manifold — Straight	20.36
Twin 80 Manifold — Tee	3.96
No. 2 Valve	1.80
No. 3 Valve or No. 1 Valve . . . $\frac{1}{2}$ " or $\frac{3}{4}$ " (No. 3 Standard on Double Copper Coil Heaters)	3.96
No. 3-U Union Valve	.24
Burner Lock Nut	3.00
Valve for No. 80-U or No. 182	5.14
Main Gas Valve for No. 192 or No. 193	.20
Burner Orifice	

Unions

Type	Size	Description	List Galvanized	List Brass
2/3	$\frac{3}{4}$ "	Female	\$.84	\$1.04
3/3	$\frac{3}{4}$ "	Female	1.22	1.70
3/3	1"	Male (Jiffie-U Union for Non-Union Heaters)	1.62	2.24
		Jiffie-U Union on Union Heaters Optional at No Extra Charge when specified		
2/3	1" x $\frac{3}{4}$ "	Jiffie-U Union Spud & Nut	1.34	1.62
	1"	Jiffie-U Spud Only	.44	1.10
2/3	1"	Female (For No. 80-U or No. 182)	1.14	1.34
3/3	1"	Female (For No. 80-U or No. 182)	1.74	2.02
2/3	1 $\frac{1}{4}$ "	Female (For No. 192 or No. 193)		2.62

Replacement Cast-Iron Coils

Heater Model No.	List Price
No. 9	each \$6.94
No. 10	each 6.94
No. 11	each 6.94
S20-I or S20-II	each 9.16



Ell Mixer

LOCK NUT

2/3 Union



HOTSTREAM Outline of Terms of Warranties for Gas, Electric & Oil Automatic Water Heaters

Various types of warranties are offered: a one-year, three-year, five-year, or ten-year warranty, depending on the model purchased.

GENERAL TERMS

The following provisions apply to all four types of warranties:

A. Warranty is extended to the owner at the original installation only.

1. Water heater is warranted to be free from defects in material and workmanship for one year from date of original installation.
2. Tank shall be considered free from defects unless it develops a leak. Loose thermostat, drain cock, or water connection will not be considered a tank leak.
3. Warranty does not apply to rusty or discolored water resulting from corrosive action of aggressive water in the tank or in the piping system of the home itself, or soft or softened water.

DIELECTRIC UNIONS

4. If heater with galvanized tank is connected to copper supply lines, Dielectric Unions must be used, otherwise the warranty is null and void. Experience has shown that where dissimilar metals are connected together, electrolysis prematurely corrodes the tank and shortens its life.

RELIEF VALVES

5. Excessive pressures may cause a tank rupture. Unless a diaphragm temperature and pressure relief valve is used on all automatic water heater installations warranty is null and void.
- B. We agree to repair or replace any part found to be defective within the warranty period. (Cash credits will not be issued.) See Special Terms below for further details.
 1. All replacements are F.O.B. car's destination.
 2. Drayage costs and labor charges for removal or reinstallation are at customer's expense.
- C. Returns of defective material must be authorized by one of our representatives. A Returned Goods Identification Tag will be furnished after field inspection or upon written request from the factory and must be attached to the defective part or the heater. The written request must include the model and serial number of the heater, date of installation, name of owner, location of heater, and specific reasons for requesting the return.
- D. All replacements or repairs under the warranty can be made only upon presentation of the certificate of warranty by the original owner. A warranty tag is attached to the water heater, which you are to fill in the information requested and keep for your record of service.

NOTE: All terms and agreements stated in the certificate of warranty are made between the manufacturer and the owner at the original installation. However, if adjustment is made to the owner by the dealer or wholesaler, the warranty will be fulfilled in accordance with outline of terms available to wholesalers and dealers on request.

SPECIAL TERMS — ACCORDING TO WARRANTY

TERMS OF WARRANTY (Black Type)
HOW WARRANTY IS FULFILLED (Colored Type)

SECTION I — ONE-YEAR WARRANTY

1. We warrant to owner at original installation that the water heater is free from defects in material and workmanship for one year from date of original installation.
1. We will repair or replace any part or parts which prove defective within one year from date of original installation.

SECTION II — THREE-YEAR WARRANTY

1. We warrant to owner at original installation that the water heater is free from defects in material and workmanship for one year from date of original installation.
1. (a) We will repair or replace any part or parts which prove defective within one year from date of installation.
(b) For tank failure occurring during the first year we will furnish replacement heater.

- (c) Replacement heater furnished during first year period carries only the unexpired portion of the original warranty.

2. We warrant that if tank leaks occur during the second or third year, replacement tank or heater will be furnished at specified percentage of current consumer list price.

2. (a) For tank failure occurring during the second or third year, replacement tank or heater is furnished at following discounts from current consumer list price:
1/36th for each month heater was in use.
(b) Replacement tank or heater furnished to home owner during the second or third year carries only the unexpired portion of the original warranty.

SECTION III — FIVE YEAR WARRANTY

1. We warrant to owner at original installation that the water heater is free from defects in material and workmanship for one year from date of original installation.

1. We will repair or replace any part or parts which prove defective within one year from date of original installation.

2. We warrant tank to be free from leaks for one year from date of original installation.

2. (a) For tank failure occurring the first year we will furnish replacement heater.
(b) Replacement heater furnished during one year period carries only the unexpired portion of the original warranty.

3. We warrant that if tank leaks occur during the second through fifth year, replacement tank or heater will be furnished at specified percentage of current consumer list price.

3. (a) For tank failure occurring during second through fifth year, replacement tank or heater is furnished at following discounts from current consumer list price.
1/60th for each month heater was in use.

- (b) Replacement tank or heater furnished to home owner during second through fifth year carries only the unexpired portion of original warranty.

SECTION IV — TEN-YEAR WARRANTY

1. We warrant to owner at original installation that the water heater is free from defects in material and workmanship for one year from date of original installation.

1. We will repair or replace any part or parts which prove defective within one year from date of original installation.

2. We warrant tank to be free from leaks for two years from date of original installation.

2. (a) For tank failure occurring during the initial two-year period, we will furnish replacement heater.
(b) Replacement furnished during initial two-year period carries only the unexpired portion of the original warranty.

3. We warrant that if tank leaks occur during the 3rd through tenth year, replacement tank or heater will be furnished at specified percentage of current consumer list price.

3. (a) For tank failure occurring during 3rd through tenth year, replacement tank or heater is furnished at following discounts from current consumer list price. Consumer Discount:
1/120th for each month heater was in use.

- (b) Replacement furnished to home owner during third through tenth year carries only the unexpired portion of the original warranty.

NOTE: Three, five and ten-year warranties apply only when water heater is used for domestic hot water supply. For commercial and industrial uses — restaurant, laundries, apartment houses, multi-family dwelling units, etc. — warranty for entire unit including tank is limited to one year. In aggressive water areas, such as Dallas, Texas, Youngstown, Ohio, Pittsburgh, Penna., and many other areas in New England, or where non-ferrous tanks should be used, we recommend our glass lined or stone lined heaters be used, which carry a 10 year warranty — 5 years outright and 5 years pro-rated.



The Symbol of Achievement